DOCUMENT RESUME

ED 170 198 SO 011 648

AUTHOR Epstein, Joyce L.
TITLE Friends in School: Patterns of Selection and Influence in Secondary Schools. Report No. 266.
INSTITUTION Johns Hopkins Univ., Baltimore, Md. Center for Social Organization of Schools.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Nov 78
GRANT NIE-G-78-0210; OCD-90-C-904
NOTE 89p.

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Academic Achievement; Affective Behavior; *Behavior Patterns; Childhood Friendship; Educational Practice; Educational Research; Elementary Secondary Education; *Friendship; Interpersonal Relationship; *Open Plan Schools; *Peer Influence; *Peer Relationship; Research Needs; Student Characteristics; Theories

ABSTRACT

This paper examines the selection and influence of friends in schools which differ in the degree of "openness" in the instructional program. Data collected from over 4,000 students in grades 5, 6, 8, and 11 in 1973 and 1974 provide information on student characteristics, school structure and processes, and academic and affective outcomes for students and their friends. Results show that school structure affects the selection of friends in grades 6-12. In the more open schools friendships are less structured. Fewer students are isolated, more friendships are reciprocated, and friends are selected from a wider set of contacts. Also, students who score low on selected measures are included in friendship groups and more often have high scoring students as friends. In studying the influence of early friends on later behavior, results show that at all grade levels high scoring friends are an important factor. Students with initially low or initially high scores can be positively influenced academically and nonacademically by friends with high scores. A final analysis examines unreciprocated, reciprocated, and stable friendships, the improvement of measures for research on peer influence, the appropriateness of current theories of friendship selection and influence, and the implications for school practice. (Author/KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED170198

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Friends in School: Patterns of Selection and Influence in Secondary Schools

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Johns Hopkins Univ.
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Grant No. NIE-G-78-0210
Grant No. OCD 90-C-904

Joyce L. Epstein

Report No. 266

November 1978

CS 011 648

Published by the Center for Social Organization of Schools, supported in part as a research and development center by funds from the United States National Institute of Education, Department of Health, Education and Welfare. This research was supported by a grant from the Office of Child Development and by the National Institute of Education, U.S. Department of Health, Education and Welfare. The results and opinions do not necessarily reflect the position or policy of OCD or NIE.

The Johns Hopkins University

Baltimore, Maryland

STAFF

Edward L. McDill, Co-director

James M. McPartland, Co-director

Karl L. Alexander

Henry Jay Becker

Jomills H. Braddock, II

Vicky C. Brown

Ruth H. Carter

Martha A. Cook

Denise C. Daiger

Doris R. Entwisle

Joyce L. Epstein

James J. Fennessey

Joel P. Gelb

Gary D. Gottfredson

Linda S. Gottfredson

Larry J. Griffin

Stephen Hansell

Bruce R. Hare

Edward J. Harsch

John H. Hollifield

Lawrence F. Howe

Barbara J. Hucksoll

Nancy L. Karweit

Hazel G. Kennedy

Marshall B. Leavey

Janice E. McKenzie

Anne McLaren

James M. Richards, Jr.

Suzanne M. Ricklen

Margaret Ann Ricks

Benjamin J. Roberts

Richard R. Scott

Robert E. Slavin

Carol L. Steurer

Mary K. Swatko

Charles B. Thomas

Gail E. Thomas

Hazel Thomas

Carol A. Weinreich

Michael D. Wiatrowski

Introductory Statement

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through four programs to achieve its objectives. The Policy Studies in School Desegregation program applies the basic theories of social organization of schools to study the internal conditions of desegregated schools, the feasibility of alternative desegregation policies, and the interrelation of school desegregation with other equity issues such as housing and job desegregation. The School Organization program is currently concerned with authority-control structures, task structures, reward systems, and peer group processes in schools. It has produced a large-scale study of the effects of open schools, has developed Student Team Learning Instructional processes for teaching various subjects in elementary and secondary schools, and has produced a computerized system for school-wide attendance monitoring. The School Process and Career Development program is studying transitions from high school to post secondary institutions and the role of schooling in the development of career plans and the actualization of labor market outcomes. The Studies in Delinquency and School Environments program is examining the interaction of school environments, school experiences, and individual characteristics in relation to in-school and later-life delinquency.

This report, prepared by the School Organization program, examines how friends are selected and how they influence student behavior in secondary schools that differ in the degree of "openness" of the instructional program. The report is part of the School Organization program's examination of how school structure influences peer group processes in schools.

Acknowledgments

The author gratefully acknowledges Edward McDill, Nancy Karweit, Steven Hansell, Ann Ricks and John Hollifield for their suggestions on an earlier draft of this paper, and the technical assistance of Lawrence Howe, Carol Weinreich and Hazel Kennedy.

Introduction

Parents worry about who their children "hang around with." They are concerned that their children's friends are "good kids" and good influences. Families often take into account the friends and contacts their children will make when they select a neighborhood. At home, if children live on the same block with other children about their age, chances are they will play together and some will be "best friends." If groups of children live several blocks apart, they will probably not interact very much at home. Proximity is one organizational condition in neighborhoods that affects children's selection of friends. The friends selected may, in turn, influence how the children behave.

Recent research on student peer groups has recognized that, like neighborhoods, schools and classrooms have organizational characteristics that affect the formation of friendship groups which, in turn, may influence students' attitudes and behavior. Bidwell (1972), Campbell (1964), Campbell and Alexander (1965), Inkeles (1968), Picou and Carter (1976) and Woelfel and Haller (1971) discuss or provide examples of the importance of structural factors that alter the opportunities for student contact and define the nature of the pool of persons from which friends may be selected. Karweit (1976) calls attention to the potential influence of organizational factors such as school size, composition of the student body, and grade and curriculum differentiation on student interaction. Alexander and McDill (1976), Rosenbaum (1976) and others discuss the effect of "tracking" on friendship groups of secondary school students, and Hallinan and Tuma (1978)

discuss in detail some consequences of "grouping" on friendship selection at the elementary school level. Tracking and other grouping practices affect the proximity of students in classrooms. There remains, however, a clear need to consider the importance of other organizational factors in addition to tracking on friendship group formation.

One potentially useful area of inquiry involves the organization of instruction experienced by students and their friends in classrooms. Hallinan (1976) argues in a recent study of friendship groups in open and traditional elementary school classrooms that the organizational characteristics of open classrooms alter some of the patterns of friendship group formation that have been found previously in studies conducted in traditional school settings. This research on friendship group formation in open and traditional schools is limited, however, in its definition of openness of the school program and by the educational level studied. It does not examine the adolescent years, when strong peer group ties are made and friends are assumed to be gaining in influence. In addition, because the selection processes are not analyzed by grade level, we gain no developmental information of how peer group formation may be affected by contrasting school organizations. Finally, the earlier research does not address how patterns of influence on student behavior may be linked to the interaction among friends under the different architectural and instructional features of open and traditional programs. In general, if we are to understand the potential of the peer group as a socializing agent, we need research that goes beyond the examination of the formation of groups to address

directly the issue of influence. This requires longitudinal data on both the student and the students' friends on a variety of educational outcomes.

One of the most difficult problems in research on peer group formation and influence is the need to separate "selection" from "influence" to interpret the similarities of attitudes and behaviors of friends. If students select their friends from a "pool" that includes students who are similar to themselves on many characteristics (due to school attendance boundaries, grouping or tracking procedures, or due to student demographic charactersitics of race, sex, SES, achievement, etc.), then the similarities among friends are a function of selection factors and not "peer influence." For example, with cross-sectional data, if friends are similarly high in achievement because they are in a high-achieving pool due to neighborhood boundaries and/or classroom grouping practices, one cannot prove that one friend influences the others' high achievement. The same problem exists for nonachievement behaviors if friends are selected on the basis of the behavior that is being measured (Duncan, Haller, and Portes, 1972; Hallinan, 1978).

In this paper the separation of selection and influence is treated as a methodological problem. Regardless of how selection is made or forced, problems arise in attributing influence of peers to behavior from cross-sectional data. Previous cross-sectional studies have been unable to adequately control on selection factors when deriving estimates of peer influence. Although causal models may be devised which

assume selection factors precede influence variables, these have typically lacked the necessary demographic, contextual or environmental variables for statistical controls. The results of such analyses have been suggestive, but the data have been inadequate for the task.

By using longitudinal data, we can account for prior patterns of selection and chart the influence of differently structured friendship encounters on later behavior. By focusing on achievement and non-achievement outcomes of students and their friends, we can begin to look for patterns of influence on diverse behaviors and attitudes. By looking at peers and families, we can contribute to the discussion of the relative importance of these two important sources of influence on different behaviors. Finally, by comparing results from longitudinal and cross-sectional analyses, our own research can support or raise questions about the conclusions from earlier cross-sectional studies that attribute peer influence to similarities among friends (e.g., Duncan, Haller and Portes, 1968; Kandel and Lesser, 1970; Picou and Carter, 1976) and add to the new perspectives of studies using longitudinal data by Cohen, 1977, and Kandel, 1978.

The first section of this paper examines whether the organizational features of open and traditional schools affect the selection of friends, and the second section examines whether differences in selection are translated into differences in the influence of early friends on students' later affective and achievement behavior.

Data

Longitudinal data were collected from 4163 students surveyed in grades 5, 6, 8, and 11 in 1973 and again in grades 6, 7, 9 and 12 in 1974. The richness of the survey data, which provide student self-reports of individual, family and school characteristics, affective outcome measures and school records of test scores is documented elsewhere. (See Epstein and McPartland, 1975, 1978; McPartland and Epstein, 1977). Briefly, extensive analyses of childrens' and teachers' reports about the degree of openness of their instructional program show that the 23 elementary and 16 secondary schools differ significantly at every grade level in the degree of openness of the students' instructional program. Students walk around the room, talk to one another, sit in different places, choose their activities, work with each other and receive more small than large group attention in more open education classes.

The non-academic and academic outcome measures include self-reliance (an 18-item scale), satisfaction with school life (a short-form of the Quality of School Life scale), college plans (a dichotomized measure of definite vs. no definite plan to attend college), report card grades in English and math, and standardized achievement test scores in English and math.

On the survey each year, students were asked to name three best friends. These sociometric data have been coded so that one can compare the individual characteristics and scores on the same affective and cognitive measures of the respondents and up to three of their best friends. The friends' data from the two surveys were merged with

the individual's own longitudinal records so that questions of influence can be studied.

It is necessary to recognize that, in spite of some unique coverage of students and their friends, there are important limitations to these data. First, only three spaces were alloted for the names of best friends in the students school and grade level. There may be others who are important as friends or influencers'.

Nevertheless, evidence suggests that the three friends who were named were important to the students, perhaps in the order listed. For both years of the survey, the first friend a student named was more likely to be reciprocated than the second, who in turn was more likely to be reciprocated than the third. Similarly, the friends were listed in rank order of stability of friendship choices, with the first friend most likely to be the same friend chosen one year later. In addition, reciprocated friends were also more likely to be stable friends.[2] Thus, while there are other friends who are important to students, the

---

[1] Woefel and Haller (1971) note that students listed an average of 13 "significant others" for a single behavior (occupational aspiration). Cohen (1972) notes an average of 5.2 friends under conditions of semi-free choice. Thus, while there is no doubt that students have more friends than their named "best" friends, the names that students list are representative of their significant contacts and can serve as useful examples for questions of selection and influence. Indeed, one could fruitfully use one best friend to research certain questions about the influence process, see Kanel, 1978.

[2] There is a problem in identifying stable choices over one year due to the natural redistribution of the population that occurs when students enter new schools for middle and high school in grades 6 and 9, and the natural attrition that occurs when families relocate.

friends named are likely to be especially significant choices for questions of influence. Of the 4163 students in the longitudinal sample who completed surveys in 1973 and 1974, 3519 named at least one friend in the survey sample; 644 students completed the survey measures but made no choice of friends in school. This information permits comparisons between students who named some friends and those who named none on the question of whether in-school friends influence school-related attitudes and behavior.

I. Selection

Patterns of Selection, Reciprocity, Stability

Table 1.1 presents some general patterns of selection of friends for subgroups of students. The means, standard deviations and test statistics from the 1974 survey on the number of friends selected, reciprocated, and stable are summarized. Females make significantly more choices than males; when the number of choices made are accounted for, females still receive more choices ($F = 69.72$), make significantly more reciprocated choices ($F = 84.96$) and make more stable choices ($F = 21.81$). Younger students make significantly more choices; with the number of choices made taken into consideration, younger students receive more choices ($F = 45.66$) but the number of reciprocated and stable choices are not consistently associated with grade level ($F = 2.19$ and $F = 2.89$, respectively). Students in grade 6 make more reciprocated choices; students in grade 12 make more stable choices. Students from high socioeconomic families are selected significantly more often ($F = 31.17$), but patterns of reciprocated and stable choices are not different for the SES subgroups of students ($F = 1.71$ and 2.58 respectively). Black and white students are not significantly different in the number who are selected as friends or the number with reciprocated friends ($F = 2.75$ and $F = 1.2$ respectively). However, white students have more stable friendships over the year ($F = 15.46$). More students in open schools than traditional schools tend to be selected as friends ($F = 48.66$). More friendships are reciprocated in open schools ($F = 13.23$), but no significant difference is noted in the stability of friendship

Table 1.1

Mean scores, standard deviations and test-statistics for selection, reciprocity and stability of friends by sex, race, socioeconomic status, grade level, and type of school organization[a/]

	Selection[b/]			Reciprocity[c/]			Stability[c/]		
	Mean	S.D.	F	Mean	S.D.	F	Mean	S.D.	F
Sex									
Male	.431	(.499)		.360	(.362)		.131	(.249)	
Female	.546	(.531)	69.72	.467	(.360)	84.96	.169	(.267)	21.81
Race									
White	.513	(.530)		.428	(.380)		.160	(.263)	
Black	.474	(.499)	2.75	.450	(.364)	1.12	.109	(.242)	15.46
SES									
High	.537	(.534)		.430	(.364)		.145	(.257)	
Low	.454	(.517)	31.17	.414	(.368)	1.71	.158	(.263)	2.58
Grade									
6	.510	(.514)		.406	(.343)		.145	(.232)	
7	.570	(.561)		.426	(.366)		.146	(.296)	
9	.357	(.380)		.437	(.372)		.145	(.260)	
12	.493	(.600)	45.94	.395	(.394)	2.19	.180	(.330)	2.89
School									
Open	.545	(.544)		.444	(.363)		.147	(.260)	
Traditional	.447	(.499)	48.66	.401	(.364)	13.23	.155	(.259)	1.00

a/ From 1974 cross-sectional survey, based on 4163 students in secondary grades 6-12.

b/ Standardized for number of choices made in school and grade.

c/ Standardized for number of selections made by student.

choices in the contrasting school environments (F = 1.00).

The same statistics from the initial (1973) survey are not recorded in Table 1.1, but there are some similarities and some differences in the general patterns of selection and reciprocity of friendship groups in the sample of students surveyed from one year to the next. The patterns of sex differences noted in Table 1.1 were consistent in both surveys; differences due to age (grade level) were more pronounced in the first year (1973) when the sample included a greater proportion of younger elementary school students. In the initial survey, white students made and received more choices, but in the 1974 survey there were no significant differences in rates of selection and reciprocity for the race subgroups. Indeed, the lower stability of friendship choices for blacks may be linked to the increased selection as friends in the second survey. Differences for students in open and traditional schools were less pronounced in the initial survey, perhaps due to the friendship selection patterns of younger students.

These patterns replicate findings in studies using data collected in the 1960's. (See for example Elder, 1969, Karweit, 1976, and Schmuck, 1970 on general patterns of selection.) The basic patterns provide a limited background for the more specific examination of differences in patterns of friendship selection in open and traditional settings.

Selection of friends in open and traditional schools.

In open schools, the physical setting and the instructional program are designed to permit frequent student interaction.[1] For example, the "pods" (architecturally open classrooms, linked by a central meeting area) permit visual and/or direct contact among up to 150 students, sometimes from different grade levels. "Learning centers," or "stations," part of many open instructional programs, permit students to work in small, changing groups, to assist one another, and to move frequently to join new groups. Groups of students with similar interests may work together on projects, and form new groups for new projects. In empirical studies, open architectural and instructional programs have been found to emphasize movement and fluid regrouping of students significantly more often than most self-contained classrooms or traditional instructional programs (Walberg and Thomas, 1972; Epstein and McPartland, 1975).

McPartland and Epstein (1976) enumerate several testable assumptions about the link between structural characteristics of open and traditional instructional programs and informal peer relationships:

First, the informal status system may have different distributions of students in open and traditional settings. Because of opportunities for wider social contacts in open instructional programs, students may

---

[1] "Open schools" is a label used by some of the schools in this study to describe a total program. The label is of less general importance than the conditions of schooling described in this paragraph which may be present to some degree in many schools or classrooms that do not choose to label their instructional program as "open."

become acquainted with a greater number of students. This could enable more students to find at least one "best" friend, producing fewer social isolates than in more traditional school settings.

Second, wider contact among students on a greater variety of assignments and projects may create tolerance or appreciation for the multiple talents or abilities of others. Friendship choices may be more egalitarian, with the typically "disadvantaged" students more accepted in friendship groups.

Third, the determinants of status and selection may be based on specific behaviors rewarded differently in open and traditional schools. For example, self-reliance, the behavior on which many open education programs are based, may be a pivotal variable for social status in more open schools. The empirical analyses that follow will explore these assumptions.

Table 1.1 showed that, on the average, students in more open schools are less isolated, that is, more often selected at least once as a best friend. This section tests the strength or generalizability of that finding by looking across the grades, and by performing other subgroup analyses that are of particular theoretical interest.

Table 1.2 shows the Chi-square statistics for tests of differences in the proportions of different students selected "best friend" (not isolates) in open and traditional schools. The statistics are interpreted here in terms of the proportions of students in each category. First, the comparisons across open and traditional settings indicate that males are significantly more often selected as friends in open

Table 1.2

A. Summary of Chi-square statistics: Tests of differences in proportions of students selected as friends in open vs. traditional settings, by sex and grade level.[a]

Comparisons Across Settings	
Males	34.08*
Females	2.25
6	14.97*
7	17.16*
9	-4.87*[b]
12	0.01

B. Summary of Chi-square statistics: Tests of differences in proportions of students selected as friends within open and traditional settings, according to sex, SES, level of self reliance and achievement, by grade.[a]

Comparisons Within Settings			
		Traditional	Open
Female vs. male	6	13.89*	7.27*
	7	2.21	0.13
	9	28.01*	0.58
	12	29.77*	1.86
High vs. low SES	6	8.14*	3.20
	7	11.93*	2.09
	9	0.09	2.99
	12	0.26	0.56
High vs. low self reliant students:	6	3.11	0.23
	7	15.89*	2.12
	9	5.88*	2.08
	12	4.82*	0.95
High vs. low achieving students[c]	7	9.10*	2.45
	9	5.04*	4.18*
	12	10.86*	0.97

a. Chi-square statistics of 3.84 are significant at .05 level; 6.64 at .01 level; 10.83 at .001 level and are marked with an asterik.
b. A minus sign indicates that the proportions tested show the advantage for selection for students in traditional schools.
c. Grade 6 students were not administered achievement tests.

schools (or are more often isolated in traditional settings), but there is no significant difference in the proportion of females selected as friends in the contrasting school settings. In other analyses (not reported here) males are also shown to be recognized and nominated by students for positive characteristics (popular, independent) more often in open schools, while no significant differences exist in nominations of females in the two settings. Second, greater differences in proportions of students selected in open and traditional settings occur at the middle school level, in grades 6 and 7. Overall, more students are selected as friends in open than in traditional middle schools, but this is not a general tendency at the high school level where more students in traditional ninth grades are selected as friends and there is no difference in selection is found at the twelfth grade level.

This information is supplemented at the bottom half of the table by comparisons within traditional and open settings. Selection patterns of students as friends within open or traditional settings were examined for students by sex, and for high and low SES, self-reliance, and achievement. In traditional schools, females are selected as friends significantly more often than males in three of four grade levels; students high in self-reliance or achievement are more often selected (and students low in self-reliance or low in achievement are more often isolates). In more open schools, across the grades, there is but one significant difference in selection based on students' sex or levels of achievement. Males and females, and students low and high in self-reliance or achievement are equally accepted. Few significant differences in selection (or isolation) are noted in either setting

based on student SES, but the two that exist show high SES students more often selected in traditional schools in grades 6 and 7.

The general pattern that more students in open schools are selected as friends is more true, on the average, for males and younger students. Further, in open schools, the population of students selected as "friend" is more heterogeneous with selection less dependent on typically favored characteristics of high self-reliance or high achievement. Boys may fit in better in open schools.[1]

Table 1.3 presents means and standard deviations for the selection, reciprocity, and stability of students' friends across the grades in open and traditional schools. The top panel of the table shows that, on the average, there are higher mean selection scores in more open settings at each grade level; grade 9 is the single exception where selection scores are about equal in both settings. The selection scores are standardized for numbers of students chosen in each school and grade. The middle panel indicates that on the average, there are higher mean reciprocation scores in more open settings, with reciprocation scores standardized for number of choices made by each student. At the bottom of the table, mean scores of stability of friendship choices, standardized for number of choices made by each student, show a mixed pattern across the grades. Overall, there is no significant difference in average stability of friendship choices in open and traditional settings. With one exception the standard deviations of

[1] Students' reports of their own social status (how much "in the center of things" they felt in school) support this evidence on the selection process. For example, students with low and high self-reliance scores in open schools show no significant difference in their self-reported social status ($X^2 = 1.94$), but in traditional settings high self-reliant students report significantly higher social status than low self-reliant students ($X^2 = 45.37$). Females and high SES students also report they are more "in the center of things" in more traditional than open settings.

Table 1.3

Comparison of mean scores and standard deviations for times selected friends and for reciprocated and stable choices of friends in open and traditional settings, N=4163[a/]

	6	7	9	12	Total
	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$
I. Friendship choices[b/]					
Traditional	.430 (.481)	.546 (.556)	.343 (.385)	.452 (.543)	.447 (.499)
Open	.566 (.528)	.607 (.566)	.355 (.370)	.771 (.839)	.545 (.544)
					F = 48.66
II. Reciprocated choices[c/]					
Traditional	.376 (.323)	.407 (.366)	.433 (.373)	.372 (.388)	.401 (.364)
Open	.426 (.357)	.453 (.365)	.446 (.372)	.557 (.396)	.444 (.363)
					F = 13.232
III. Stable choices[c/]					
Traditional	.123 (.209)	.164 (.258)	.165 (.265)	.179 (.322)	.155 (.259)
Open	.170 (.253)	.131 (.235)	.115 (.249)	.181 (.343)	.147 (.260)
					F = 1.01

[a/] The same patterns are noted when openness of the school and grade instructional program is trichotomized for low, middle, high openness.

[b/] Standardized for number of choices made in each school and grade.

[c/] Standardized for number of selections made by each student.

selection scores (in parentheses) are surprisingly similar.

It was noted in tables 1.1 and 1.2 that the number of different students selected was greater in more open settings, making fewer students isolated or ignored by others. In table 1.3 it is clear that mean selection rates are higher and that reciprocity is consistently stronger in more open settings.

Tables 1.2 and 1.3 support Hallinan's (1976) research conducted in the elementary grades that showed patterns of fewer social isolates and fewer asymetric dyads (here, fewer unreciprocated friends) in more open settings. Consistent patterns of less isolation, greater selection and greater reciprocation of friends in more open settings have been explained, in part, by more opportunities for contact with greater numbers of students. Table 1.4 checks this proposition.

Data were collected to identify students' teachers for English, math, social studies, and science; then teachers' classroom assignments of students and their friends were compared. Students were assigned scores from 0-4 for each academic subject to indicate how many of their friends were assigned to their own subject class, and from 0-12 for friends in all four subjects. Controls were imposed for grade level, the number of different teachers for each subject in each school and grade, and the number of selections made. Table 1.4 shows that students in more open settings select fewer friends from their own classes; conversely, students in more traditional settings select more of their friends from their own English, math, social studies and science classrooms. In each of the four subjects and for all subjects considered together, the negative regression coefficients are small but significant and consistent.

In these analyses, about 25% of the variance for selection of friends in some classrooms is explained, with 39% explained when all

Table 1.4

Summary: Number of best friends selected from same teachers' classrooms regressed on openness, controlling grade level, number of different teachers' classes in each school and grade, and number of friends selected (N = 2502)[a]

Openness of Subject [b]	b	(t)
ENGLISH	-.081	(-4.47)
MATH	-.080	(-4.33)
SOCIAL STUDIES	-.036	(-2.03)
SCIENCE	-.074	(-4.15)
ALL SUBJECT	-.071	(-4.36)

[a]This table includes only students who selected at least one friend and who, with their friends, take all four academic subjects.

[b]Openness of subject is scored on a continuum from low to highly open as described in McPartland and Epstein, 1977. A negative coefficient here is indicative of the relationship between openness and out-of-classroom choices of friends rather than from the same teachers' classrooms.

classes are considered. The fewer the number of teachers, the more friends are selected from the same class ($t = -21.83$); and the more friends selected, the more at least some are in the students own class ($t = 27.76$). But over and above these demographic conditions that mathematically define some obvious constraints, openness of the instructional program leads students to select friends from a broader field.

The following text table shows that, across the grades, younger students select more of their friends from their own academic classes.

Average number of best friends from same teachers' classrooms[1/]

	Traditional	Open
6	4.90	3.96
7	5.58	4.05
9	2.99	2.97
12	2.49	2.06

[1/] Standardized for number of friends selected

Students in departmentalized high schools select friends from a variety of teachers' classrooms or other settings. At each grade level, students in more open schools select friends from a wider academic arena. Differences are greatest for students in grades 6 and 7.

In sum, there is evidence that the selection of best friends in open environments is made from a wider set of contacts. At all grade levels students in more open schools more often select as friends students from outside the boundaries of their own teachers' classrooms, while students in traditional schools more often make restricted, within-classroom selections.

With tables 1.1 to 1.4 as background, table 1.5 presents results of more rigorous analyses of the impact of openness on selection, reciprocation, and stability of friendship choices. Three independent variables are highlighted: the structural (aggregate) openness of instruction experiences by students at school and grade level; the perceived openness experienced by the individual student; and the

student's report of his/her teacher's classroom decision-making style (the degree to which the student participates in classroom decisions). Openness of instruction and decision style are empirically distinguished as structure and process elements of instruction (Epstein and McPartland, 1978; McPartland and Epstein, 1976). The three independent measures in Table 1.5 provide a range of estimates of the impact of openness and opportunities for class participation on friendship selection based on alternative concepts and measurements.[1]

The top panel of Table 1.5 shows that openness of instruction has a consistent, positive impact on students' inclusion in friendship groups. The analyses take into account grade level, sex of student, individual socioeconomic status, success in school, and the total number of students selected as friends in each school and grade. There is a small but significant and consistent advantage for selection as friend for males and females in more open educational settings, and for students in three of the four secondary grades. Grade 9 is an

[1]The aggregate and individual measures of openness are included to account for the difference between either measure and the "true" environmental influence. The assignment of an aggregated measure of openness of instruction from reports by all students of a school and grade level to every individual in that school and grade does not take into account the differences experienced by groups of students or individuals in different subject classrooms in every school and grade. It is also true that an individual's report of the structure of his/her instruction in school may be an unreliable account of actual environmental conditions. Thus, by including two measures of openness (aggregate and individual) we can establish a potential range of influence of the structural concept represented by "open" instructional practices. The measure of decision-making style is a measure of student participation in class, regardless of the structural openness (aggregate or phenomenological) of instruction. It is included as an individual experience variable for comparison with the individual reports of openness and as a processual variable in contrast with the structural measure of openness.

Table 1.5

Summary of analyses of selection reciprocity and stability of friendship choices regressed on structural openness, individual openness, decision style, by sex and grade level

	Female		Male		6		7		9		12	
Selection[a/]	b	(t)	b	(t)	b	(t)	b	(t)	b	(t)	b	(t)
Structural Openness	.051	(2.50)	.063	(3.09)	.106	(4.31)	.099	(3.77)	-.039	(-1.39)	.176	(5.23)
Perceived Openness	.061	(3.12)	.076	(3.86)	.103	(4.19)	.067	(2.59)	-.028	(-1.05)	.182	(5.51)
Decision Style	.012	(0.60)	.007	(0.33)	.035	(1.43)	.023	(0.88)	-.007	(-0.26)	.028	(0.85)
Reciprocation[b/]												
Structural Openness	.079	(3.98)	.075	(3.78)	.021	(0.74)	.076	(2.93)	.049	(1.87)	.179	(3.74)
Perceived Openness	.073	(3.73)	.085	(4.40)	.048	(1.90)	.061	(2.41)	.089	(3.45)	.034	(0.88)
Decision Style	.030	(1.59)	.019	(1.02)	.056	(2.37)	.020	(0.77)	.012	(0.47)	.024	(0.71)
Stability[b/]												
Structural Openness	-.025	(-1.26)	-.028	(-1.43)	.033	(1.16)	-.091	(-3.58)	-.087	(-3.23)	.077	(1.59)
Perceived Openness	-.027	(-1.44)	-.043	(-2.24)	.030	(1.14)	-.068	(-2.74)	-.080	(-3.04)	.024	(0.60)
Decision Style	.073	(3.90)	.022	(1.16)	.070	(2.89)	.055	(2.18)	-.037	(-1.43)	.060	(0.10)
N	2822		2785		1688		1563		1437		919	

[a/] Grade (or sex), student socioeconomic status and success in school (report card grades) are controlled. The selection variable is standardized for number of choices made in each student's school and grade.

[b/] Reciprocation and stability scores are standardized for the number of choices made by each student. Analyses account for the number of students chosen in each student's school and grade.

exception to the pattern. The aggregated measure of structural openness and the phenomenological measure of openness are about equivalent in their effects. However, selection as friend is not influenced by teachers' classroom decision-making style.[1] This pattern of different effects of structure and process on student friendship choice shows that instructional practices which permit free movement and more frequent contact among students in changing work groups affects selection of friends; however, the teacher's classroom decision-making style (which characterizes the process rather than the structure of instruction) does not affect the direct contact of students with each other, and has no impact on friendship group formation.[2]

Results presented in the second panel address the question of reciprocity (or mutuality) of friendships. For males and females, openness of instruction has consistent, positive effects on reciprocity using either the aggregate or individual measure of openness. This is also true across three grade levels, though the coefficients are not

---

[1]Additional analyses were conducted that also control for the size of the student population in each school and grade and the number of students selected by each student. These additional controls do not alter the patterns of significance of results for males and females, but change slightly the patterns of results for grades 9 and 12--making the relationship more positive in grade 9 and less positive in grade 12. School/grade size is a factor of potential importance, but it does not eliminate the advantages of openness for student inclusion in a social group as best friend.

[2]This is in contrast to results of analyses of the impact of structural openness and classroom decision-making style on academic and affective behaviors. For achievement, personality, and attitudinal variables, the process or style of teaching which includes students in decisions has important direct impact on individual student behavior, but the structural conditions represented by measures of openness have only small direct effects on student outcomes. See Epstein and McPartland, 1978.

as consistent or strong as for selection. Again, teacher's decision-making style is not a variable of consistent importance for reciprocity of friendship choices. These analyses statistically take into account the grade or sex of student and the number of choices made in each school and grade; the measure of reciprocity is standardized for the number of friends each student selected. The impact of openness on selection and reciprocation is small but consistent for males and females and with few exceptions, across the grade levels of middle school and high school.

The bottom panel of table 1.5 shows no advantage of openness for stability of friendship choices. Students in more traditional schools have more stable friendship choices in grades 7 and 9, but not in grades 6 and 12. Decision-style positively encourages stability of friendship choices for females but not males, and for grades 6 and 7 but not grades 9 and 12. These unpatterned results may be due to conditions that make the measure of stability more problematic than the measures of selection and reciprocity. Each grade level studied experienced some physical or population change in school assignment over the year between the surveys that could be important for the measure of stability of friendships. Grade 6, part of 7, and grade 9 entered new schools for middle and high school; grade 12 differed from the initial survey least of all in school assignments, but the population was subject to attrition as some students dropped out of school or graduated early. Thus, students' friends selected one year were not necessarily present in school the next year, and, even if they were, had in many cases

become part of a different and larger population. Students will make friends, and will reciprocate current friendship choices regardless of the potential for stable friendships.

In addition to organizational practices that facilitate frequent contact among changing groups of students at work (changing the rate and nature of proximities), there may be other conditions in open and traditional settings that encourage the different selection processes noted above. For example, in many schools high status is accorded by peers to students who meet the teachers' norms for behavior. This should be more true in schools in which the teachers set the rules for class process and progress and less true in schools where the students and teachers each contribute to the definition of acceptable classroom behavior.[1] Who is an acceptable or worthy person? and who shall be ignored or rejected? are questions that may lead to the broad or narrow selection of friends. While there will be exceptions to this scheme (e.g. purposeful selection of people who are unacceptable to the authorities), students are likely to include a greater number and type of friends, the more say they have in the definition of acceptable behavior. In open schools students have more "say" in their classroom activities and behavior (Epstein and McPartland, 1975), and there may be a broader definition of who is "acceptable" and greater acceptance of students typically excluded from friendship groups. Daily interaction among students at work could increase students' tolerance for those who do not meet the teachers' expectations for behavior. As

[1] An example of this is the acceptance or rejection of black students by whites as friends (or white students by blacks) in desegregated settings, based on how parents, teachers, or school administrators define the "acceptability" of cross-race friendships.

students work with one another, they may find multiple positive attributes in each other and accept as friends students who may otherwise be rejected under stricter definitions of "acceptability." There are clues that this may be part of the explanation of different selection procedures in open and traditional schools.

In traditional schools the "stars" are known to both students and teachers, and the overlap is greater when students and teachers make nominations. For example, students nominated by teachers as highly independent are more often selected as:

	Traditional	Open
1) friends by students in traditional schools:	$X^2 = 10.39$	NS
2) popular to a greater degree in traditional than in open schools:	$X^2 = 9.39$	4.15
3) independent by students in traditional schools:	$X^2 = 31.41$	NS
4) hard to fool by students in traditional schools:	$X^2 = 6.95$	NS

These relationships may be interpreted to mean that students and teachers in traditional schools have a more limited (or defined) pool of students who are singled out as sociometric stars, where as in more open schools there is a wider range of students who may become known for their positive characteristics. The "good students" in teachers' eyes in traditional schools are those who can function in school independently and these students are clearly labeled and favored. The label is known to students as well, and those favored by teachers become good-all-around students to their peers. In the open schools more students are independent in school and so the "good students" are more numerous or less specifically labeled by teachers. Under such

conditions, student choices of peers with positive characteristics will not necessarily match the choices of their teacher, and more (different) students may be selected.

With small but clear differences noted in selection patterns, we turn next to examine the characteristics of selected friends in open and traditional settings. Differences in characteristics of friendship groups are intermediate conditions of importance in the selection-influence chain of events. The averages of friends' characteristics on multiple outcome measures define the structure of the friendship group. The potential for measurable influence of one friend on another depends on the differences in characteristics, attitudes, and behaviors. The following descriptions of average friends' characteristics in contrasting environments use data on a variety of demographic characteristics and behaviors of selected friends.

Table 1.6 presents results of analyses of the impact of openness on the selection of friends with particular characteristics.[1] The top panel of the table shows that, on the average, a student's friendship group is more likely to have high levels of self-reliance in more open settings. Controlling on students' own self-reliance[2], structural (aggregate) openness is a better predictor of this characteristic of

---

[1]Earlier research at the elementary level restricts the diversification of the "school pool" since the elementary school is more apt to mirror the student's family/neighborhood characteristics, behaviors and values. The middle (or junior high) school and, even more so, the high school more often include larger populations of students from diverse communities.

[2]Self-reliance is an 18-item scale administered to each student and is reported fully in Epstein and McPartland, 1975.

Table 1.6

Summary of analyses of average friends' characteristics regressed on students' own characteristics, openness of school and grade, perceived openness by individuals, and perceived classroom decision-making style, by sex and by grade level.[a]

	Sex		Grade			
	Female	Male	6	7	9	12
Average Friends' Self-Reliance						
Structural Openness	.134 (6.79)	.082 (3.64)	.114 (4.12)	.114 (4.02)	.225 (7.31)	.122 (2.84)
Perceived Openness	.126 (6.45)	.046 (2.08)	.075 (2.69)	.089 (3.12)	.100 (3.26)	.172 (4.03)
Decision Process	.089 (4.34)	.036 (1.54)	.088 (3.03)	.038 (1.30)	.087 (2.78)	.094 (2.17)
Average Friends' Aspirations						
Structural Openness	.161 (7.76)	.087 (3.65)	.154 (5.57)	.206 (7.35)	.102 (3.46)	.079 (2.02)
Perceived Openness	.099 (4.86)	.072 (3.06)	.089 (3.21)	.109 (3.84)	.081 (2.75)	.048 (1.22)
Decision Process	.060 (2.88)	.048 (2.04)	.030 (1.07)	.051 (1.79)	.033 (1.09)	.119 (3.02)
Average Friends' Report Card Grades						
Structural Openness	-.012 (-0.54)	.038 (1.52)	-.085 (-2.97)	-.032 (-1.04)	.037 (1.12)	.195 (8.50)
Perceived Openness	-.013 (-0.60)	-.028 (-1.16)	-.064 (-2.24)	-.005 (-0.16)	-.012 (-0.37)	.122 (2.79)
Decision Process	.019 (0.83)	-.033 (-1.33)	-.047 (-1.62)	.043 (1.45)	.004 (0.12)	-.082 (-1.19)
Average Friends' Achievement						
Structural Openness	.062 (2.10)	.059 (3.00)	NA[b]	.064 (3.15)	.057 (2.52)	-.002 (-0.07)
Perceived Openness	.028 (1.42)	.082 (4.19)	NA	.073 (3.54)	.046 (2.05)	.009 (0.26)
Decision Process	.043 (2.11)	.047 (2.31)	NA	.017 (0.83)	.063 (2.70)	.040 (1.17)
Average Friends' Sex						
Structural Openness	.070 (3.28)	-.056 (-2.36)	-.016 (-1.27)	.020 (1.79)	.018 (1.29)	.019 (0.59)
Perceived Openness	.051 (2.39)	-.057 (-2.41)	-.017 (-1.29)	.001 (0.11)	.033 (2.35)	-.005 (-0.17)
Decision Process	-.012 (-0.56)	-.058 (-2.45)	-.020 (-1.64)	.002 (.025)	-.005 (0.34)	-.058 (-1.83)
Average Friends' Race						
Structural Openness	-.037 (-2.92)	-.061 (-3.39)	-.069 (-3.74)	-.069 (-3.04)	-.043 (-2.36)	-.007 (-0.34)
Perceived Openness	-.025 (-2.04)	-.048 (-2.73)	013 (0.70)	-.063 (-2.83)	-.063 (-3.48)	.002 (0.87)
Decision Process	.010 (0.79)	.022 (1.22)	.029 (1.55)	.019 (0.88)	-.010 (-0.58)	.029 (1.95)
Average Friends' Socioeconomic Status						
Structural Openness	.261 (13.31)	.267 (11.59)	.248 (9.37)	.249 (9.19)	.333 (11.73)	.198 (4.88)
Perceived Openness	.157 (8.18)	.201 (8.80)	.132 (4.88)	.183 (6.78)	.239 (8.45)	.106 (2.57)
Decision Process	.075 (3.78)	.074 (3.23)	.046 (1.70)	.052 (1.93)	.128 (4.46)	.039 (0.97)

a/ Sex subgroup analyses include statistical control for grade level. Grade level analyses include statistical control for sex of student.

b/ Grade 6 was not administered standardized achievement tests.

friendship groups than perceived (individual) openness, and both are more important than the teacher's classroom decision style. This is clear for males and females and across the grades, with grade 6 and grade 12 showing partially altered patterns.

In this sample, there are greater numbers of more self-reliant individuals in the student bodies of open schools. This school/grade "pool" provides greater opportunity for selecting self-reliant friends in more open settings. The larger pool of self-reliant students may be the result of the recruitment of initially self-reliant students to open schools, or it may reflect the educational practices in open schools that develop self-reliance in students over many years.[1] More likely, a combination of self-selection and education creates the more self-reliant "pool." In turn, the friendship groups of low and high self-reliant students include some highly self-reliant friends. The composition of the average friendship group should serve to reinforce and influence the growth of self-reliance of the average open school student. This proposition will be tested in the section of this paper on friends' influence.

The second panel of Table 1.6 shows the same well-defined pattern for the aspirations of friends in open vs. traditional schools. Controlling on student's own aspirations, students in more open schools are

---

[1] By rewarding particular kinds of behavior, the school can affect the composition of the student body from which all friends are selected making it more likely that more students will be in contact with students having certain behaviors that the school considers positive.

Students in more open schools report significantly more teacher rewards for original ideas and expression of opinions (McPartland and Epstein, 1976). Teacher rewards for independent thought and creative expression may contribute to the larger pool of self-reliant students in more open schools.

likely to select friends with plans to attend college. The pattern appears also for standardized achievement scores, controlling on students own scores, but at a lower significance level. The pattern is not apparent for friends' average report card grades. Openness does not encourage the choice of friends with higher school success, even though other analyses (not reported here) show the school/grade pool receives higher grades on the average in more open settings.

Table 1.6 also presents results of analyses of the effect of open school attendance on the average friends' demographic characteristics. For example, openness appears to encourage more frequent cross-sex selection; in more open schools females (scored 0) select males (scored 1) more often and males select females more often as indicated by small but significant positive regression coefficients for females and negative coefficients for males. With students' grade and race controlled, analyses show males and females, and students across the grades (except for grade 12) select more black friends than students in more traditional settings. With students own SES controlled, males and females and students at all grade levels select friends with higher socioeconomic status than students in more traditional schools. The characteristics of race and socioeconomic status (but not sex) are differently represented in the "school/grade pool" in open and traditional settings, i.e. more blacks and more high SES students comprise the "pool" in the sample of open schools.

Table 1.7 shows how selections of friends by students in different school settings are operationalized. At each grade level, students low in self-reliance are more likely to select friends who are higher in self-reliance if they attend more open schools. There are three exceptions, but the basic pattern is clear. It should be noted that in grade 6, 7, and 9 students who are low in self-reliance in highly open schools have friends whose average self-reliance is as high as the friends of highly self-reliant students in more traditional settings.

Similarly, the bottom of table 1.7 shows that in more open schools, students with or without college plans are in friendship groups with higher average aspirations. The only exceptions to this pattern are for students in the mid-level open schools in grades 9 and 12. In more open settings students with no college plans in grades 6 and 7 have friends with higher average college plans than students with definite plans to attend college who are in traditional settings.

Other tests with these data for both measures show consistently significant differences between the average self-reliance and aspiration scores of friends of low and high students within traditional settings and within somewhat open settings, but smaller or insignificant differences between the average scores of friends of low and high students in highly open settings. It appears that selections are made from the pool of students in ways that expose more students in open settings to peers with more positive characteristics.

Tables 1.6 and 1.7 indicate that the opportunities for selection of friends with positive characteristics and from diverse student populations are different in open and traditional schools. Students

Table 1.7

Average friends' self-reliance and college plans for students in traditional, mid- and high-level open schools, by students' own self-reliance and by grade level

	Highly Traditional		Mid-level Open		Highly Open	
Students' Own Self-Reliance	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
6 Low	9.54	(2.10)	9.16	(2.04)	10.49	(1.87)
High	9.70	(1.84)	9.85	(1.87)	10.90	(1.97)
7 Low	9.49	(2.58)	10.14	(2.16)	10.91	(2.11)
High	10.91	(2.42)	10.60	(1.90)	10.90	(1.69)
9 Low	10.15	(2.23)	10.88	(2.20)	11.29	(2.30)
High	11.12	(2.50)	11.70	(2.26)	12.17	(2.25)
12 Low	12.36	(2.35)	11.62	(2.43)	12.46	(2.26)
High	13.07	(2.17)	12.52	(2.43)	14.12	(1.90)

N's across rows are: 6 Low 115/376/82; 6 High 130/356/135; 7 Low 145/351/97; 7 High 101/367/94; 9 Low 138/301/81; 9 High .75/281/95; 12 Low 76/150/19; 12 High .82/122/52.

Students' Own College Plans	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
6 No	.40	(.35)	.45	(.34)	.65	(.35)
Yes	.58	(.35)	.58	(.35)	.66	(.28)
7 No	.32	(.34)	.41	(.36)	.59	(.35)
Yes	.44	(.40)	.60	(.35)	.65	(.33)
9 No	.24	(.32)	.39	(.37)	.40	(.35)
Yes	.66	(.32)	.62	(.36)	.70	(.36)
12 No	.42	(.41)	.34	(.39)	.60	(.36)
Yes	.76	(.28)	.71	(.36)	.80	(.34)

N's across rows are: 6 No 128/345/91; 6 Yes 124/401/127; 7 No 159/344/67; 7 Yes 93/383/123; 9 No 141/314/77; 9 Yes 76/273/105; 12 No 66/124/20; 12 Yes 97/154/53.

in open schools seem to accept these opportunities and thereby affect the structure of their group of best friends.[1]

Summary of section I

There are several differences in the selection of friends and the characteristics of selected friends in open and traditional schools. First, in more open settings, more students are selected (and fewer neglected) as best friends. To some extent, more students' friendships are reciprocated in more open settings, but no consistent differences are noted for stability of friendships in the contrasting settings. The results of these analyes of friendship patterns at the secondary level show less hierarchical structure in the open schools, with fewer students isolated. The patterns, however, are more interesting than the generalization. For example, males and less advantaged students, who are often isolated in more traditional settings, are more often selected as a friend in more open settings.

Second, there is evidence that the selection of friends in open environments is made from a wider set of contacts. At all grade levels students in more open schools select as friends students from outside

---

[1] This point was verified further with a test of differences in proportions of students who pick "up," i.e., select as friends students higher in a characteristic than themselves. Students low in self-reliance, college plans and socioeconomic status, more often select friends who are "higher" than themselves as best friends in more open schools.

Percent of students who pick at least one student higher than themselves:

Scores	Traditional	Mid-Open	High Open	χ^2
Low in Self-Reliance	72%	73%	83%	13.43
Low in College Plans	55%	66%	80%	43.73
Low in SES	75%	80%	93%	22.25

their own teachers' classrooms, while students in traditional schools make more restricted, within-class selections.

Third, these findings are relatively robust, retaining statistical significance and consistent patterns across grades or sex subgroups even when statistical controls for individual background characteristics, numbers of students selected in each school and grade, school/grade size, and number of selections made by the student are imposed. Comparisons show the structure or openness of the environment is a more important determinant of differences in selection patterns than the process of student-teacher decision-making.

Finally, the average self-reliance score of friends of both low and high self-reliant students are significantly higher in open than traditional schools. This is due to the nature of the "pool" of students (i.e., there is a higher proportion of self-reliant students in open schools), but it is also due to the actual selection as friends in open schools of highly self-reliant students by students who are themselves low in self-reliance. Interestingly, the data suggest that high-independent students are selected as friends in all schools, but low-independent students are more often included as friends in open schools. Further, in more open settings the average of friends' college plans and friends' SES are higher for students who are low in their own aspirations or family status. Overall, the results indicate that there are school structural factors that affect the selection of friends by students in grades in grades 6-12 in small but consistent ways on numerous dimensions.

This study suggests that students will select friends differently under different forms of school organization. Four environmental conditions may explain the different patterns of selection of friends in open and traditional schools. These include the physical conditions of open architecture with high visibility among students and greater space for contact during class time; instructional conditions that encourage the grouping and regrouping of small groups of students to place students in proximity with greater numbers of other students on tasks that may require purposeful interactions.; psychological conditions that encourage knowledge, tolerance and acceptance of a wide range of characteristics and abilities (including student participation in defining acceptable behavior and student helping behaviors in small group lessons and projects); and demographic conditions of the pool of students in a grade or school. The organization of instruction can change the proximity of students to one another, enlarge the pool or potential friends, impose rewards for certain kinds of behavior, and in so doing alter, to some degree, the characteristics of the student population on certain behaviors. These school environmental conditions can affect the variety and frequency of opportunities for selecting friends and the nature of the encounters that occur among students. Each of these conditions is, to some extent, a manipulable variable within schools and classrooms. The natural variation that exists in the study sample of secondary schools provides suggestive evidence that manipulation of these variables can affect how students select friends and whom they select.

The bottom line of peer group research is not how many friends are selected, how many choices are received, or how the friendship group is structured, but whether and how the choices that are made influence the individual's behavior. This has been the missing feature of many studies, due in part to the lack of adequate longitudinal measures of student behaviors. The next section examines whether the differences in selection of friends in open and traditional settings, and differences in characteristics of selected friends, are translated into different patterns of influence on student attitudes and behaviors.

II. Influence of Friends on Student Behavior

An extensive sociological and psychological literature shows that social influence may occur directly and indirectly in multiple contexts. Students interact with and may be influenced by close friends, classmates, acquaintances, and other students who are observed in and out of school, as well as adults in school, at home, and at large. (See Hallinan, 1978, for a comprehensive recent review of this literature; also Bain and Anderson, 1974; Coleman, 1961, Elder, 1969; Woelfel and Haller, 1971). Students also interact with and may be influenced by environmental conditions or group climates, classroom climates, and school climates. (See Spady, 1973, and McDill and Rigsby, 1973 for an overview and research at the high school level, and Feldman and Weiler, 1976 for a discussion of research on the topic at the college level.) In this section we limit our attention to students and their most direct or proximate influences--their close friends and the educational environments in which they interact.

The underlying assumption is that the positive affect that exists between a student and his or her best friends creates conditions for interpersonal influence. Further, we assume that more interaction occurs among students when their friendships are reciprocal, and that continued interaction occurs among students who select the same friend one year later. Finally, we assume that students making no choice of friends have different social relations in school from students who do list close friends in school.

This section reports some of the consequences of students' interactions with friends who have unique combinations of characteristics

and attitudes. We limit attention to the most important potential influences (see Campbell and Alexander, 1965, Haller and Woelfel, 1972) to determine if there is evidence of a significant quantity of influence of one student on another's affective and academic behaviors and if the patterns of influence differ under contrasting instructional programs experienced by students in open and traditional schools.

Four different friendship group structures are identified; these are labelled LL, LH, HL, and HH. The first letter of each pair of letters indicates the student's own initial score on a measure (L=low; H=high) at the time of the first (1973) survey. The second letter of each pair indicates the average of the initial scores of the student's friends. Thus, LL includes students who initially scored low on a measure and whose friends (averaged) also scored low; LH includes students initially low whose friends were initially high; and so on for the HL (high-low) groups and the HH (high-high) groups.[1] These labels are used on several tables and are defined in the same way.

Table 2.1 presents the results of tests that compare the current scores of students who were initially in differently structured friendship groups. For example, current scores of students initially low with high friends are compared with current scores of students initially low with low friends (LH vs. LL). Because of the exploratory nature of these analyses, t-tests showing differences in scores at or beyond the .10 level of significance are underlined.

Columns 1 and 2 of the table indicate that, overall, friends positively influence each other's attitudes and behavior on affective and academic outcomes. Students who are initially low or high with

[1] The distinctions between low and high are based on the mean score for each measure used.

Table 2.1

General Influence Patterns: t-test statistics[a] for comparisons of current scores of students initially low or high on measures whose friends were initially low or high, for total population and by sex, and by grade.[b]

OUTCOME	Total Population		Sex Subgroups: Female		Male		Grade		
	LHvsLL	HHvsHL	LHvsLL	HHvsHL	LHvsLL	HHvsHL		LHvsLL	HHvsHL
1. Self-reliance	2.54 a/	2.79	2.49	3.02	1.03	2.66	6	2.48	0.88
							7	0.23	2.04
							9	0.32	2.50
							12	0.91	3.35
2. Satisfaction with school life	1.65	3.26	1.47	2.01	0.90	2.69	6	0.27	2.23
							7	1.10	1.67
							9	0.31	0.82
							12	0.93	0.59
3. College plans	4.55	2.89	2.55	1.79	3.66	2.26	6	3.07	0.02
							7	0.33	1.73
							9	2.75	1.94
							12	2.94	2.15
4. English report card grades	2.46	7.21	0.94	5.47	1.90	2.65	6	1.24	1.12
							7	1.93	4.31
							9	0.95	5.71
							12	1.71	2.60
5. Math report card grades	0.46	3.38	1.78	2.07	-1.16	2.46	6	1.47	1.34
							7	0.02	2.43
							9	0.78	2.34
							12	1.87	0.94
6. English standardized achievement	5.36	6.38	4.28	4.75	3.63	4.28	6	NA	NA
							7	2.73	4.75
							9	4.71	4.44
							12	0.53	3.62
7. Math standardized achievement	5.47	6.65	6.30	4.22	3.16	5.77	6	NA	NA
							7	4.95	4.04
							9	4.58	6.09
							12	NA	NA

---

a/ Test statistics are significant at .10 level at 1.68; at .05 level at 1.96; at .01 level at 2.58 and at .001 level at 3.29.

b/ N's for total population for each outcome are 1. Low 1622, High 1705; 2. Low 1280, High 1879; 3. Low 965, High 840; 4. Low 711, High 1310; 5. Low 716, High 1086; 6. Low 870, High 960; 7. Low 951, High 664. N's for females/males for each outcome by students' initial score follows: 1. Low 598/606, High 544/412; 2. Low 645/631, High 1085/787; 3. Low 599/366, High 421/419; 4. Low 278/435, High 849/461; 5. Low 362/354, High 640/446; 6. Low 489/481, High 551/409; 7. Low 536/425, High 375/289.
N's by grade level 6/7/9/12 for each outcome are: 1. Low 616/493/365/148, High 511/479/459/256; 2. Low 355/359/382/535, High 652/574/401/494; 3. Low 338/278/244/105, High 287/205/216/132; 4. Low 499/288/281/144, High 558/634/478/198; 5. Low 428/297/318/101, High 500/544/431/111; 6. Low NA/416/377/77, High NA/475/362/123; 7. Low NA/539/422/NA, High NA/350/314/NA.

c/ LL, LH, HL and HH represent the initial friendship group structures in that the first letter of each pair indicates the students' own initial score on a measure (L=low; H=high) and the second letter indicates the average of the student's friends initial scores on the same measure.

high scoring friends have (with two exceptions) significantly higher scores on the same outcome one year later. Columns 3-8 report tests on sex and grade level comparisons. Columns 3-6 show, with few exceptions, the same evidence of positive influence of high scoring friends is apparent for males and females. The significant test statistics indicate higher scores for students whose friends were initially high scorers. Among the sex-subgroup comparisons, all four exceptions show that initially high-scoring students with high-scoring friends retain a significant advantage over high-scoring students with low-scoring friends, but no significant differences exist for initially low-scoring students in initially different friendship groups. The similarity of patterns of influence for males and females with high-scoring friends across outcomes supports Maccoby and Jacklin's (1975) conclusion that sex differences in "vulnerability" to peer pressures is not empirically well-established. These within-sex comparisons show that the influence process appears to work similarly for males and females, with both sexes positively influenced by high scoring friends on a variety of achievement and affective outcomes.

Columns 7 and 8 present separate analyses by grade level. Selecting high- or low-scoring friends may matter more, overall, to high-scoring students, but there are many instances of positive influence by high scoring friends for initially low-scoring students on different outcomes at all grade levels. These comparisons show that similar patterns of peer influence across grade levels with no evidence that peer influence is systematically, markedly different for middle school or high school students.

The largest differences of scores for initially similar students in different friendship groups are noted for achievement-related measures (standardized achievement, report card grades and college plans). The smallest differences in students' current scores due to differences in friendship group structures are noted for the affective measure of satisfaction with school life.

The LL and HH friendship groups are based on the initial similariy of students and their friends; the LH and HL groups are based on initial differences in scores on outcome measures of students and their friends. It is understood that categorical groups make gross distinctions among levels of scores, but are useful for studying patterns of influence. If students previously similar (i.e. initially low) become significantly different, and if they are members of differently structured friendship groups (i.e. LL vs. LH), then we may attribute the change (at least in part) to actual influence of friends on behavior. Our analyses show that students initially in LH groups have significantly higher scores than students initially in LL groups; students initially in HH groups have significantly higher scores than students in HL groups.[1]

---

[1] There are four main ways to obtain significant differences of scores in the comparisons we make:

For LH vs. LL comparisons: LL students become lower, and LH students remain the same.
LL students remain the same, and LH students become higher.

For HH vs. HL comparisons: HH students become higher, and HL students remain the same.
HH students remain the same, and HL students become lower.

These possibilities are based on different theories of influence and behavior than have been the focus of previous research, for each requires us to account for the potentially negative influence of low friends as well as the positive influence of high-scoring friends. This set of distinctions is examined later in Table 2.7 and Figure 2.1.

Initial similarity does not negate the influence of friends through the maintenance or accentuation of the initially similar behavior (see Feldman and Weiler, 1976). The similarity at the time of selection and the similarity one (or more) years later illustrate the link between selection and influence. Moreover, as is emphasized by these analyses of diverse student outcomes, students may select friends based on similarity on one criterion and be different from their friends on other attitudes and behaviors. Thus the problem of "separation" of selection from influence processes is indeed a murky one, and is present even when longitudinal data is available.

Influence of friends in open and traditional schools

McPartland and Epstein (1976) specify one testable assumption about the differences in extent of peer influence in open and traditional schools. Wider contacts of students in open schools (supported empirically in the previous section), could result in weaker influence of the peer group in open schools. Students may be attached to multiple peer and friendship groups, each with different informal norms for behavior. The influence attempted by any one group may be easier to resist. On the other hand, wider contacts could permit more careful selection of friends, especially "best friends." Better selection would result in greater influence of best friends in more open schools.

Table 2.2 presents results from analyses of students in differently structured friendship groups in open and traditional schools. From a continuum of openness of the school structure (Epstein and

Table 2.2

T-tests[a] for influence on current scores of high and low students[b] of high and low scoring friends in traditional, somewhat open, and highly open instructional programs.

	Traditional Program		Somewhat Open Program		Highly Open Program	
	LHvsLL	HHvsHL	LHvsLL	HHvsHL	LHvsLL	HHvsHL
1. Self-Reliance	1.61[c]	1.14[c]	1.47	1.76	2.04	2.05
2. Satisfaction with School Life	2.26	1.07	0.49	2.12	0.13	2.51
3. College Plans	2.50	1.07	2.96	2.72	1.82	0.97[c]
4. English Report Card	2.12	3.54	0.96	5.64	1.38	2.96
5. Math Report Card	0.08	3.25	-1.05	2.76	0.65	-1.16
6. English Achievement	4.31	2.94	2.71	5.47	2.66	2.55
7. Math Achievement	2.47	4.79	5.97	4.11	2.40	2.52

[a] Test statistics are significant at the .10 level at 1.68; .05 level at 1.96; at .01 level at 2.58 and at .001 level at 3.29.

[b] N's for the given categories listed by student initial score are: 1. 323/291/615/506/164/158; 2. 351/489/727/1053/199/332; 3. 242/201/544/472/175/165; 4. 255/362/373/730/85/215; 5. 273/285/362/573/80/226; 6. 243/331/496/483/130/144; 7. 240/246/561/319/159/97.

[c] These statistics become significant when the architecture of the school building is also taken into consideration. Open space buildings were compared with regular school buildings, regardless of the nature of the instructional program. In these analyses other statistics remained about the same. The few changes further decrease distinctions in patterns of influence in open and traditional settings.

McPartland, 1975), students were grouped in one of three categories of instructional experience: traditional, somewhat open, and highly open programs. There are no consistent patterns distinguishing differences in the influence process by initially differently-structured friendship groups in open and traditional schools. It does appear that in highly-open schools students initially high on the nonacademic outcomes (self-reliance, satisfaction) are more positively influenced by high-scoring friends than students initially high with low-scoring friends. In more traditional schools it is more often the case that low-scoring students with high-scoring friends have significantly more positive current scores on measures of satisfaction with school life and English report card grades.

Overall, the results show that students in open and traditional programs are influenced positively by high-scoring friends on most affective and academic outcomes. While it appears that high-scoring students are more likely to be influenced on affective behaviors by high scoring friends in somewhat open and highly open settings, it would be premature to conclude from these separate analyses that friends' influence on affective and achievement behaviors differs in important ways in open and traditional settings.

To illustrate the potential for further research on the links between selection and influence processes in open and traditional organizational forms, two groups of students of particular theoretical interest in open educational settings were examined separately: Students low in self-reliance with friends higher in self-reliance,

and students low in self reliance with friends equal to or lower in self-reliance than themselves. The following text table shows zero order correlations of openness and other measures of student behavior, and results of regression analyses for these variables with background and family characteristics controlled.

	Students low in self-reliance			
	with higher friends		with equal or lower friends	
With openness of school program:	Zero order	b[1/] (t)	Zero order	b[1/] (t)
Satisfaction with school life	.088	.047 (1.78)	-.087	-.123 (-2.61)
Perceived teacher rewards for self-reliance	.097	.085 (3.04)	.016	.019 (0.37)
Change in self-reliance over one year	.103	.044 (1.61)	.070	0.30 (1.00)
Own social status	.045	.066 (2.35)	.055	0.52 (1.27)
N	1435		496	

The data suggest that in more open schools, students with initially low scores in self-reliance who have friends higher than themselves in self-reliance are more satisfied with school life, report their own social status at school is higher, perceive teachers rewarding self-reliance and show greater positive change in self-reliance. Students initially low in self-reliance who have low self-reliant friends are dissatisfied with school life in more open schools, and no special advantage of openness is noted for them on the other measures. While only suggestive of

---

[1] Control variables include grade, sex, race, parents' education, family style, rules in the home, and report card grades.

more extensive tests and studies that are needed, these results imply that students may be assisted by close peers who already "fit" the schools expectations for students to make a better adjustment to school and to better understand the school's goals.

Finally, though most of the test statistics reported in Tables 2.1 and 2.2 are small, the tests for the differences in friends' influence on achievement outcomes are sizeable. Students initially low and initially high in all three school organizational settings have significantly higher English and math achievement scores if they have initially high-achieving friends. In general, the structure of the friendship group--high or low average friends' scores--appears more important than the structure of the school organization--open and traditional programs --in which the friendship group operates.

The influence of differently structured friendship groups on student behavior

It is sometimes assumed that the stronger and longer lasting the relationship of students and their friends, the greater the influence on behavior. We look next at some specific characteristics of friendship groups by examining reciprocated and unreciprocated choices of the LL, LH, HL, and HH groups and by examining the influence patterns of stable vs. unstable choices of friends over the one-year period.

Table 2.3 shows two ways to gauge the effects of reciprocated and unreciprocated choices on student scores. First, within friendship-group structures, we compare the scores of students in LL groups whose choices are and are not reciporcated (and so on for students in LH, HL, and HH groups). The first column of Table 2.3 shows that for students in LL groups there are significant differences for reciprocated and unreciprocated friends on current scores only for English achievement. The second column indicates that reciprocity has significant positive effects for the LH group on self-reliance, English report cards, and English and math achievement scores. This group appears most benefited on a number of outcome variables from reciprocation. For students initially high on each measure in HL or HH groups (columns 4 and 5), reciprocity appears to make little difference. College plans and

Table 2.3

Summary of t-tests for differences in student scores within friendship selection category due to reciprocation of friends choices and stability of choice of friends

	No vs. All Friends Reciprocated[a]				No vs. All Friends Stable			
	LL	LH	HL	HH	LL	LH	HL	HH
1. Self-Reliance	0.13	1.96	1.79	0.87	0.91	2.13	0.68	2.44
2. Satisfaction with School Life	-0.05	0.65	-0.52	1.41	0.48	0.90	0.52	2.00
3. College Plans	1.20	1.44	2.00	-0.54	-1.23	0.62	0.68	1.10
4. English Report Card	1.77	2.20	2.89	2.33	1.76	0.92	2.08	2.55
5. Math Report Card	0.46	1.35	1.74	0.54	0.47	-0.67	0.10	0.66
6. English Achievement	3.11	2.04	-1.28	0.73	0.54	2.11	-1.26	0.13
7. Math Achievement	1.06	2.90	1.36	0.66	1.25	2.98	-0.20	0.25

[a] N's for the categories across rows for tests of reciprocation: 1. 394/341/293/340; 2. 552/302/605/602; 3. 369/237/213/334; 4. 275/209/254/607; 5. 262/222/261/467; 6. 373/211/204/398; 7. 450/188/185/226. And across rows for tests of stability: 1. 469/351/321/383; 2. 615/350/679/663; 3. 431/280/273/364; 4. 321/239/284/649; 5. 317/230/254/510 6. 428/228/234/441; 7. 521/299/194/252.

[b] Test statistics are significant at .10 level at 1.68; at .05 level at 1.96; at the .01 level at 2.58 and at .001 level at 3.29.

report card grades are the two outcomes for which initially high-scoring students with initially reciprocated friends have significantly higher current scores than students with unreciprocated friends.

About one-half of a student's initial, reciprocated friends are also stable friends; thus, there is great overlap between the two sides of Table 2.3. There is only one notable pattern of differences in scores linked to the stability of friendship choices over one year. On several affective and achievement outcomes, students who select initially high-scoring, stable friends have significantly higher scores than students with high-scoring friends who do not remain stable over one year. The level of significance in each case is small, and the outcomes differ according to the students' initial scores. Initially low-achieving students with high-achieving friends are especially assisted in their achievement scores. For students with low-scoring friends, stability appears to make no significant difference--positive or negative--on student behavior.

A final examination of the differences in influence on student behavior of unreciprocated, reciprocated and stable friends is presented separately by sex in Table 2.4. The table shows the unstandardized regression coefficients from analyses of the effects of average friends' initial scores on students' current affective and cognitive outcomes, after controlling on the student's own initial score. Holding constant the student's initial score for each measure means that the most powerful predictor of a current score is first taken into account and

Table 2.4

Unstandardized coefficients for regression of student affective and cognitive scores on average unreciprocated, reciprocated and stable friends scores and student initial scores, by sex.

	Female[a]			Male[a]		
Outcome	Unreciprocated Friends	Reciprocated Friends	Stable Friends	Unreciprocated Friends	Reciprocated Friends	Stable Friends
1. Self-Reliance	.0210*[b]	.0184*	.0296*	.0142*	.0203*	.0318*
2. Satisfaction with School Life	.0004	.0005	.0001	.0006	.0014*	.0011*
3. College Plans	.0009*	.0010*	.0011*	.0016*	.0014*	.0021*
4. English Report Card	.0013*	.0018*	.0004	.0010*	.0012*	.0016*
5. Math Report Card	.0001	.0014*	.0005	.0011*	-.0005	.0001
6. English Achievement	.0100*	.0081*	.0103*	.0079*	.0088*	.0093*
7. Math Achievement	.0094	.0163*	.0196*	.0048	.0114*	.0123*

[a] N's for the categories across rows are for females: 1. 443/791/475; 2. 643/1233/707; 3. 636/1226/716; 4. 436/789/480; 5. 387/654/432; 6. 434/776/469; 7. 337/667/384; for males: 1. 522/498/328; 2. 760/810/518; 3. 743/798/524; 4. 517/488/321; 5. 474/461/307; 6. 492/487/323; 7. 418/432/273.

[b] Asterisks indicate that the regression coefficients are more than twice their standard errors.

that the prior, accumulated influence of friends on the initial score is also being controlled. The regression coefficients, then, report the continuing impact of earlier friends' attitudes and behaviors on students' later behavior. Separate coefficients are shown for unreciprocated, reciprocated and stable friends. An asterisk indicates a significant influence of higher average scores of the early friends on the individual's current score on each outcome.

The most informative comparisons are between the unreciprocated and each of the other categories of friendship groups. For unreciprocated friends there are numerous coefficients for males and females that show the general advantage of selecting high-scoring friends. On measures of self-reliance, college plans, English report card grades, and English achievement, all students benefit on their own scores from earlier membership in high-scoring friendship groups, regardless of whether or not friends reciprocate or endure.

There are many instances where the coefficients are greater for the reciprocated and/or stable friends than for the unreciprocated choices. This is especially true for males on several outcomes, but is consistent for males and females on standardized achievement test measures. It should also be noted that two of the three outcomes for females (math report cards and math achievement) and both outcomes for males (satisfaction and math achievement) that do not show significant regression coefficients for unreciprocated friends, do yield significant coefficients for reciprocated friends.

Thus, the nature of friendships--unreciprocated, reciprocated stable-- may have some effect on the extent of influence on the outcomes. While the patterns for males are more consistent, there are no neatly patterned differences in substantive conclusions to draw from the table for males and females. It will be observed that reciprocity and stability in friendship groups has more effect on satisfaction with school life for males; stability appears more consistently important across most outcomes for males; and reciprocity appears to be important for female math scores. While it is tempting to "explain" these patterns with references to differences in male and female school behaviors, need for group support, or responsiveness to group pressures, we will resist making fine distinctions at this time, in favor of the more logical substantive conclusion that the process of influence by friends across outcomes for males and females is generally equivalent and requires further study.

Table 2.5 compares scores of students who chose no friend on the initial survey with students who chose friends in differently structured groups. First, scores of students who selected no friend are compared with scores of students who selected low-scoring friends. Under these conditions--no friend vs. low friends, having selected friends makes little difference on student scores one year later. There are four exceptions on academic measures that indicate students who have chosen some friends (even if the friends are low on those measures) are at an advantage over those who chose no friends. Interestingly, column 3 of the table shows that initially low-scoring students who select no friends may have higher scores on self-reliance and college plans than students who select and keep (stable) low-scoring friends.

Table 2.5

Summary of t-tests[a/] comparing scores on outcomes of students selecting no friends and some friends by type of friendship group and students' initial scores[b/].

	No friends vs. low scoring friends if student is initially		No friends by low scorer vs. low scoring stable friends	No friends vs. high scoring friends if student is initially		No friends by high scorer vs. high scoring stable friends
	Low	Hi		Low	Hi	
1. Self-Reliance	1.68	0.74	-1.68	0.41	1.58	2.78
2. Satisfaction with School Life	0.03	-1.59	-0.72	1.31	0.11	1.52
3. College Plans	1.04	0.69	-3.54	2.66	1.57	1.83
4. English Report Card	0.74	2.80	1.74	2.91	2.76	3.50
5. Math Report Card	0.20	-0.65	0.41	0.57	2.06	1.73
6. English Achievement	3.58	3.11	2.07	7.91	4.20	2.64
7. Math Achievement	-0.62	2.37	2.55	8.08	1.78	0.91

[a/] Test statistics are significant at .10 level at 1.68; at .05 level at 1.96; at .01 level at 2.59 and at .001 level at 3.29.

[b/] N's for the given categories going across rows are: 1. 849/690/632/725/758/312; 2. 1257/1063/979/617/1180/242; 3. 860/519/265/623/675/235; 4. 624/631/258/529/1147/365; 5. 572/577/210/474/935/298; 6. 808/478/296/550/798/262; 7. 901/362/279/492/460/121.

Second, the table compares scores of students who chose no friend versus high-scoring friends. Both initially low- and high-scoring students are better off one year later on measures of college plans, report card grades, and achievement if they selected high-scoring friends than students who chose no friends. Initially low-scoring students are especially assisted by high-scoring friends over similar students with no friends on standardized achievement. There is no significant difference in scores of students with no and some friends on self-reliance and satisfaction with school life. The last column of the table shows that students within high-scoring and stable friendship groups have higher scores than more isolated students on 5 of the 7 measures. Satisfaction with school life, the most consistent exception to all of these patterns, may be mainly determined by a student's own student experiences in school. While the measures are far from perfect, there is some indication that students who select no best friends are at a considerable disadvantage on many outcomes, compared to students who have friends who serve as positive, stable influences.

Tables 2.3 to 2.5 raise some interesting questions about the nature of friendship groups. Earlier tables point out that students benefit from the selection of friends with high scores. However, this section shows that reciprocity and stability of children's friends are not always beneficial characteristics. The data suggest that while some mutual and stable choices are advantageous, other mutual and stable patterns of choice have either no effect or long-term disadvantages for students. Neither reciprocity nor stability of best friends is necessary

for positive influence on behavior to occur, though both Tables 2.4 and 2.5 suggest that reciprocity and stability of friends who are high scorers can be positive influences on some student behaviors. The lack of many strong effects of reciprocation and stability on the influence process may be due in part to the changing nature of childrens' friendship groups, so that new friends are selected who are at least "equal" as influences on behavior as old friends. It is also possible that many students who show no reciprocity from friends in this sample are actually reciprocated by the friends they named, but that our limited measure for choice of friends is masking the true nature of reciprocal and stable friendship structures. It may be that reciprocation or stability of friends means more close and satisfying personal relationships or may affect other outcomes that are not measured here.

We do not yet know whether, when, or why reciprocated or stable choices are beneficial for student development. Other research also notes the uncertain importance of reciprocity on influence. Kandel and Lesser (1970) for example, point out the greater importance of the person selected "best friend overall" or "school best friend," regardless of the reciprocity of the selection. Leinhardt (1972), Hallinan (1976a) and Cohen (1977) note that the short-term nature of student alliances makes stability of friendships of one year an uneasy measure for large groups. The assumption has been that mutuality and stability are ideal conditions for friendship groups, but the analyses reported here raise many questions that suggest the issue is more complicated than previously acknowledged.

There has been much debate in the literature on the relative importance of family and friends on student behavior. On the one hand it has been argued that peers increase their influence relative to family in adolescence. However there has been little empirical support for this contention (see Kandel and Lesser, 1970 for data that speaks to this argument). Table 2.6 attempts to place in perspective the influence of early friends, current friends, and family[1] on the behavior and attitudes of students. The table presents the F-statistic associated with the increased percent of variance explained when early friends, current friends, and family SES are added, separately and in combination, to an equation regressing current scores on student initial scores for the affective and cognitive measures at each grade level. Five separate additions to the equation are tested: The contribution to the explained variance due to early friends; current friends; family SES; early and current friends after family has been accounted for; and family after early and current friends are accounted for.

Early friends contribute significantly to the explained variance of student current scores (with student initial scores held constant) on all outcomes for one or more grade levels. These analyses control for the influence of early friends on students' initial scores, and

[1]Family socioeconomic status has been the variable most frequently used in the past for such analyses. It is used here (level of parents' education) to permit comparison of results with earlier research. However, see Epstein and McPartland, 1977a, b for a more complete representation of family influence on behavior that contrasts SES with more proximate family decision-making processes relative to school and individual characteristics.

Table 2.6

F-statistics for increase in explained variance due to the addition of early and current friends, and family SES, by grade.[a/]

	6	7	9	12
1. Self-Reliance				
Early Friends [b/]	7.71*[c/]	1.92	4.87	16.44**
Current Friends [b/]	54.07	27.73	44.20	0.56
Family SES	10.17	25.84	55.56	7.70
Friends net of Family [d/]	25.45	9.68	13.92	7.88
Family net of Friends [d/]	3.21	17.24	38.02	6.68
2. Satisfaction with School Life				
Early Friends	4.86*	6.13*	0.11	3.78
Current Friends	22.67	15.27	10.94	41.72
Family SES	2.17	1.17	5.21	0.54
Friends net of Family	12.57	9.32	5.01	20.58
Family net of Friends	1.86	0.22	4.20	0.10
3. College Plans				
Early Friends	6.01	5.46	16.44*	13.91
Current Friends	29.87	42.28	57.04	74.80
Family SES	82.17	82.64	80.83	23.87
Friends net of Family	7.41	9.87	18.45	18.54
Family net of Friends	48.29	57.62	51.56	17.94
4. English Report Card				
Early Friends	6.48	29.62*	15.90*	15.17*
Current Friends	87.82	136.65	94.13	9.38
Family SES	36.60	41.75	28.32	0.46
Friends net of Family	36.36	62.40	42.91	9.99
Family net of Friends	20.60	21.76	17.22	0.01
5. Math Report Card				
Early Friends	4.68*	0.77	1.74	13.26*
Current Friends	113.94	40.83	89.67	1.24
Family SES	8.27	7.50	6.35	0.30
Friends net of Family	56.74	18.84	44.15	6.88
Family net of Friends	4.97	4.51	5.07	0.74
6. Standardized Achievement [e/]				
Early Friends	NA	23.67*	25.13*	24.54*
Current Friends		73.72	43.42	41.60
Family SES		25.55	30.31	19.81
Friends net of Family		32.29	19.42	18.02
Family net of Friends		10.10	15.65	10.22

[a/] N's by grade (6/7/9/12) for each outcome are: 1. 1138/995/855/407; 2. 1174/1002/859/411; 3. 1173/1007/866/411; 4. 1135/988/836/409; 5. 997/937/827/295; 6. NA/1015/839/333.

[b/] F-statistics of 3.84 or more are significant at .05 level; 6.64 at .01 level.

[c/] * indicates that F-statistic remains significant for early friends after addition of current friends to the equation, at or beyond the .10 level.

[d/] F-statistics of 2.99 are significant at .05 level; 4.60 at .01 level.

[e/] For this table we use math achievement for grades 7 and 9 and English achievement for grade 12, which did not have a math achievement test. Grade 6 was not tested.

confine attention to the continued influence of early friendship group structures on later behavior. This is the closest evidence of "true" influence obtainable from these data.

The results indicate that the greatest continued influence of early friendship groups is on measures of standardized achievement, with sizeable contributions noted also for English report card grades and college plans in the high school grades. Moreover, for each outcome (except college plans) for at least two grade levels, the contribution of early friends remains significant even after the characteristics of the students' current friends are taken into account (see asterisks on Table 2.6).

As one might expect, current friends contribute far more to the explained variance of student current scores, again holding students' initial scores constant. The concurrent conditions of selection and influence create unsolvable problems for interpretation in cross-sectional studies of friendship groups. Without the longitudinal tests reported above, we would know only that students select friends whose attitudes and behavior are similar to their own. Indeed, for every grade and every outcome (with three exceptions in grade 12) students' current friendship group characteristics on that outcome make substantial, significant contributions to the explained variance, and far exceed the contributions to the equations made by students' early friendship groups.

The patterns of results suggest a dynamic model of friendship selection and influence. The earlier tables emphasized that the type

of selection made (low- or high-scoring friends on specific measures) affects students' own scores one year later. Table 2.6 shows that early and current friends significantly contribute to an explanation about students' current behavior. There is, likely, a refinement of the selection process as new friends are made, or as different friends assume the position of "best friends." Some friendship groups become more "advantaged" and positive influence is exerted on some outcome measures. New selections of friends are likely to be based on revised attitudes and behavior so that each set of current friends are, indeed, more similar to the student selectors as they currently view themselves. While we have some evidence that this process stabilizes over time, so that older students have more stable best friends, there is no evidence that the process stabilizes completely. Rather, we assume that the dynamic selection and influence processes continue into adulthood.

Next, Table 2.6 shows the separate contribution of family SES to explained variance on the selected outcomes. Family SES makes significant, sizeable contributions to the explained variance of all outcomes, with the exception of satisfaction with school life and report card grades for students in grade 12.

The last two entries to Table 2.6 compare the contributions of friends and family SES. The table lists the contribution to the explained variance for each outcome of the student's friendship group characteristics when this variable is added to the equation after family SES and, finally, the contribution to the explained variance

for family SES when it is added to the equation after friendship group characteristics. Family SES is a more important contributor than friends for student college plans and in three of four grades is about equal to or more important than friends for student self-reliance. Family SES contributes significantly but substantially less than the friendship group to the explained variance for the other affective and academic outcomes. In other words, except for college plans and self-reliance the influence of friends net of family is greater than the influence of the family net of friends. Interestingly, only the measure of college plans shows a regular pattern from the middle to high school years of increased levels of influence of friends (both early and current friends, and friends net of family).

Table 2.7 presents the means and standard deviations of current scores for students initially in differently structured friendship groups. In every case, for high- and low-scoring students, the average score for students with initially high-scoring friends is higher than the average for students with low-scoring friends. All but one of the comparisons (math report card grades for low-scoring students) yields significant t-tests at or beyond the .01 level. As would be expected, on the average, the highest scores of all are obtained by high-scoring students with high-scoring friends; the lowest scores are obtained by initially low students with low friends; and initially high-scoring students remain higher than low-scoring students consistently for academic and affective outcomes. Of course, there is considerable overlap in the scores for individuals, but it is interesting that the

Table 2.7

Means and Standard Deviations on Current Outcome Measures for Students Initially High or Low Whose Friends Were Initially High or Low, for Total Population[a/]

		Mean Scores and Standard Deviation				
		LH vs. LL			HH vs. HL	
		$\bar{x}$	sd		$\bar{x}$	sd
1. Self-reliance	LH	10.07	(3.00)	HH	12.58	(2.87)
	LL	9.60	(2.83)	HL	12.05	(2.87)
2. Satisfaction with School Life	LH	1.22	(1.29)	HH	2.49	(1.57)
	LL	1.11	(1.18)	HL	2.25	(1.56)
3. College Plans	LH	.39	(0.49)	HH	.80	(0.40)
	LL	.25	(0.43)	HL	.72	(0.45)
4. English Report Card Grades	LH	3.48	(0.85)	HH	4.21	(0.81)
	LL	3.31	(0.89)	HL	3.85	(0.89)
5. Math Report Card Grades	LH	3.47	(0.97)	HH	4.06	(0.88)
	LL	3.44	(1.02)	HL	3.87	(0.94)
6. Standardized Achievement-English	LH	39.80	(16.13)	HH	71.40	(16.27)
	LL	33.04	(18.41)	HL	64.21	(16.68)
7. Standardized Achievement-Math	LH	42.57	(20.62)	HH	78.77	(15.26)
	LL	32.37	(21.14)	HL	70.37	(16.46)

[a/] N's: see Table 2.1 for total population.

higher mean scores of students with high-scoring friends are accompanied by lower standard deviations, especially for measures of achievement and report card grades.

Figure 1 shows the average scores at time 1 and time 2 for students in the four types of friendship groups. The patterns are totally consistent. There is a clear regression toward the mean for the total population, but within the two sets of subgroups there is a pattern of accentuation (Feldman and Weiler, 1976: 375); that is, the means of the two groups within subsets diverge. Each time, the low students with high friends move more toward the mean than the low students with less toward the mean than the high students with low friends. Comparisons of most of these changes yield significant t-tests, and all are in the same direction. Different influence processes are suggested by these results for the four types of friendship groups: The low-scoring (LL) students move toward the mean but change least (maintenance); the LH students change most (positive influence); the high-scoring (HH) students move toward the mean but change least (maintenance); and the HL students change most (negative influence). The combination of maintenance for similar groups and influence for dissimilar groups produces the general pattern of more positive behavior for students with high-scoring friends. These analyses highlight the results presented throughout this section, and suggest how the scores of students in differently structured groups show significant differences.

The influence of friends on student aspirations has received the most attention in previous peer group research, so we highlight this

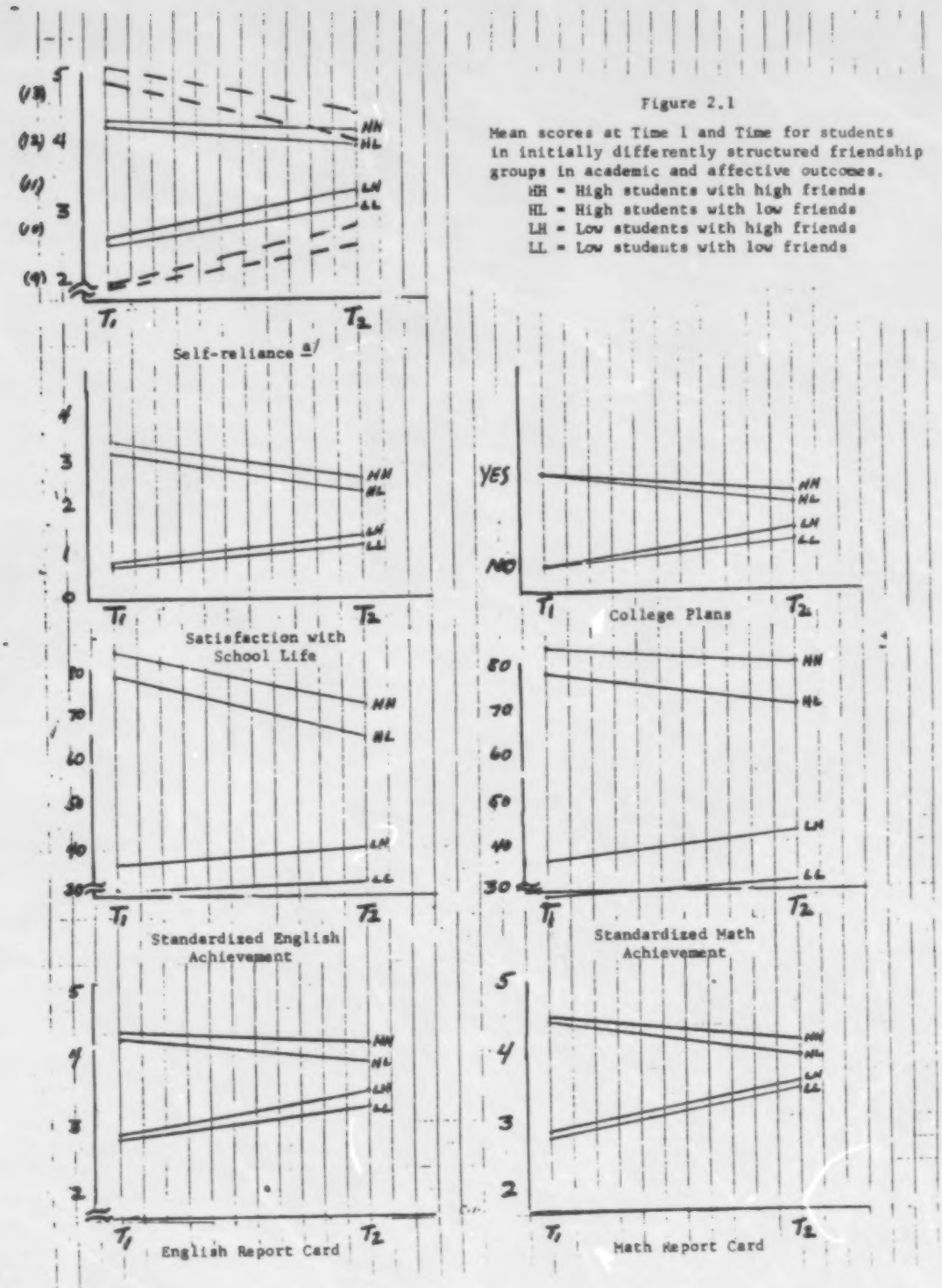

Figure 2.1

Mean scores at Time 1 and Time for students in initially differently structured friendship groups in academic and affective outcomes.

HH = High students with high friends
HL = High students with low friends
LH = Low students with high friends
LL = Low students with low friends

a/ The solid lines are for a short self-reliance scale of 5 items that were included on both surveys for students initially in grades 5, 6, 8 and 11. The dotted lines are for the full 18-item self-reliance scale for grades 6, 8 and 11 only. (The full scale was not originally administered to students in the elementary grade 5.)

study's longitudinal data on the influence of friends on college plans. Table 2.8 presents the mean scores of current college plans[1] for students who did or did not initially plan for college and who had no, some, or all friends with definite plans to attend college. Having some or all friends with college plans makes a dramatic difference in the change toward positive aspirations for students in grades 6, 9 and 12, and less negative change away from college for students in grades 7, 9 and 12 with initially positive aspirations. The data suggest that the time between grades 11 and 12 is a decision-making period and that peer influence can be especially important during this period for students with no definite plans. These patterns corroborate the results of earlier tables that suggest at all grade levels the structure of the groups of best friends can have important consequences for students' later attitudes, behavior, and decisions.

Summary of section II

The results strongly suggest that students with initially low and high scores can be influenced in positive ways by friends with high scores. This influence occurs for both academic and nonacademic outcomes. Patterns of continuous and concurrent influence show that selection of friends and their influence on behavior throughout adolescence are dynamic processes involving the selection of increasingly similar friends who then shape each others' behavior. As a student's behavior and personality becomes better defined, new friends are selected or

[1]For these analyses college plans is dichotomously coded (1/0) for definite plans to attend college after high school.

Table 2.8

Mean current college plans of students having no friends, some friends, and all friends with plans to attend college, by students' initial college plans and by grade[a/]

Grade	Own Initial Plans[b/]	Friends with College Plans		
		None	Some	All
6	No	.266	.301	.424
	Yes	.742	.737	.724
7	No	.323	.370	.342
	Yes	.676	.698	.784
9	No	.174	.279	.333
	Yes	.585	.721	.804
12	No	.190	.471	.452
	Yes	.833	.864	.898

[a/] N's by grade across rows are: 6--No 199/242/139; Yes 132/236/155; 7--No 167/138/111; Yes 108/116/97; 9--No 172/93/72; Yes 73/86/143; 12-- No 63/17/42; Yes 24/44/108.

[b/] Based on plans one year earlier (1973 survey).

old friends are kept who are most like the self on at least some behaviors. We extend Newcomb's (1961) conclusion that interpersonal knowledge grows with acquaintance to specify that, at the same time students are socialized by experiences with others, they are gaining self-knowledge. The "fit" between what is learned about and from friends and what is learned about the self determines how much new friends will differ from earlier friends. The increased self-knowledge, a cognitive skill, leads students to select others more like themselves each time new friends are made. Cohen's (1977) data corroborate this point: boys new friendship groups were more similar than old groups in 10 of 14 attitudes and behaviors, and girls on 8 of 14 items.

Which behaviors are the criteria for selection is not yet clear. However, students who seem similar on some behaviors will be different on others, and so the opportunity for influence remains. For all outcomes measured we find evidence of cumulative behavioral consequences from membership in differently structured friendship groups.

Further, the data suggest that the adolescent peer group is not necessarily a force antagonistic to the aims of the school regarding achievement and academic success. We see strong evidence for students both low and high on achievement that their choice of high-achieving friends has positive and continuous influence on student achievement, even when controls are placed on students' own initial scores. We concur with Kandel and Lesser (1970) that it is time to put aside the early generalization that peers are a deterrent to intellectual effort. The selection of "good influencers" appears to have some academic payoff.

III. Discussion

Four topics for discussion are suggested by this research: the separation of selection and influence, the improvement of measures for research on peer influence process, the appropriateness of current theories to explain student friendship selection and influence, and the implication of the results for application in schools.

1. Selection and influence are not competing explanations for peer similarity. It has not been clear from past research whether the similarities noted within peer groups are due to the selection of "already-like" friends, to school demographics, instructional procedures or neighborhood homogeneity or whether similarities noted are due to the actual influence of one friend on another. The analyses and results reported here suggest that the two processes of selection and influence are not opposing forces. Rather, the links between selection and influence, or the way selection defines or limits potential influence, is the issue of importance. With the use of longitudinal data on multiple outcomes on the students and their friends, this study points out that the structure of the group, determined by selection, is the key to influence. Students both initially low and high appear to benefit from the selection of high-scoring friends.

Friends selected for one reason are not similar on all attitudes and behaviors. Peers probably influence one another by supporting or maintaining some attitudes and behaviors and by changing other attitudes and behaviors. The results indicate that "selection versus influence" is a useful image only to acknowledge the methodological problems

associated with cross-sectional analyses. The links between selection and influence depend on multiple characteristics of the individuals, their interactions with others, the environments in which interaction occurs, and the behavioral outcome in question. We do need to separate the measurement of selection and influence, but the ultimate task is to establish the linkages between the two processes.

Elder (1969) discusses three different status dimensions that operate in school: liking or social acceptance--a measure of prestige; ability to influence others--a measure of power; and success in school work--a measure of accomplishment (also see Glidewell, et al., 1966). Under this framework, differences in selection processes based on liking and choosing may be created by contrasting environmental conditions, while differences in power and influence may not be dramatically altered in the same contrasting settings. Further, the power to influence others on nonacademic attitudes may not be generalizable to academic behaviors or scholastic accomplishment. Clearly, the influence process may be separable by outcome.

There is a logical connection between social acceptance and influence on behavior; we expect the most liked and accepted students to become influential through persuasiveness or by example. However, it may be easier in the short term to create differences in patterns of social acceptance than in power or accomplishment through the use of different organizational practices in school settings. The results of this research show evidence of differences in how students select friends and perceive their own status in open and traditional schools,

but it appears that the influence processes do not differ markedly in the contrasting environments--i.e., in both settings, high-scoring students influence the behavior of their friends.

The data do not permit detailed specification of the mechanisms that determine influence. We assume that modeling or emulation of attitudes and behavior takes place, but we also acknowledge that "best friends' define and communicate expectations for each other's behavior and compare themselves to one another and to the wider peer group. (See Woelfel and Haller (1971) and Kelley (1952) on the distinction between definers and models of behavior.) Mead (1934) attributes influence to interaction with and signals from significant others. These may be direct or indirect communications. With direct communications, friends who are high scorers may expect their associates to perform similarly, thereby establishing group norms for behavior. In indirect association, students model their own behavior after the person they select, thus creating personal norms and goals for new behaviors. Social exchange, social reinforcement, observational learning, modeling, and expectation processes all undoubtedly operate in school settings to influence behavior. With better sociometric and behavioral measures one could further dissect the selection and influence linkages. For example, it may be that reciprocation and stability of friendship selections influence behavior through increased, directly communicated expectations, and unreciprocated friendship selections influence behavior through modeling or emulation.

We have tended to assume that if it were available, a measure at Time 1 represents a starting point for charting the influence of friends

on each other. Cohen (1977) for example, contrasts the great similarity of fall cliques with the modest increase in similarity within cliques over approximately eight months. However, students' friendship groups do not originate at the Time 1 measurement. Rather, the group will be the result of earlier selection processes. If we take seriously the links between selection and influence, the selection process at any one point in time is, in part, a result of the selection and influence processes up to that point in time. There will, therefore, be greater differences between friends and the general population than between friends at two points in time, because within-clique changes and new selections of friends will be built on a common base.

The conundrum remains: what can we say when only cross-sectional data are available about the influence of friends on each other? What is the real magnitude of peer influence? Questions about the extent of peer influence may yield meaningless estimates unless there is information on the developmental nature of various outcomes which may define the maximum potential for change, the expected effects of important environmental (school and family) conditions and changes, and outcome-specific measures of students and their friends.

2. Better sociometric and environmental measures must be used in future studies of peer and family influence if we are to advance our understanding of the influence process. The results of this study show that for some outcomes the influence of students' friendship groups is as great or greater than the influence of the family. This conclusion is only temporarily informative. The measures used for friends' characteristics were outcome-specific, but the family socioeconomic

status is a general measure of parent education. It is a proxy for measures of all prior and current family conditions and practices. At best, the use of SES provides conservative estimates of family influence on affective and cognitive behaviors. Recent research shows that family decision-making style makes a greater contribution toward positive development of nonacademic attitudes and behavior than family SES (Epstein and McPartland, 1977a, b). It will be important to use measures of specific family contexts to put the relative influence on behavior of family, friends, and school conditions into perspective.

Results show that friends' influence is behavior-specific. Some friendship groups will be high on one measure and low on another, reflecting the average of the members' strengths and weaknesses. It may be that observed influence on a specific measure is due to the high score of only one friend, while for a different outcome it is the high score of a different friend that has an influence on a student's behavior. The complex interrelationship of an individual's own placement on a given measure combined with the multiple possible combination influences of even three friends is not well understood.

Needless to say, the use of a general measure of friends' characteristics--such as SES--contributes a serious error in design. Even a student's own SES does not always predict well the behaviors studied here. Norms for behavior are neither unidimensional nor fixed. Therefore, friendship context measures are most informative for studies of influence when the measures are outcome-specific. In this study we were able to control for selection on the basis of each outcome.

Sociometric measures must be improved. We cannot accurately test the influence of reciprocated and stable friends on behavior without more complete accounting of the members of students' close friendship groups. Further, as we reach for explanations of development on multiple outcomes we must extend inquiry beyond the students' three best friends; consideration of multiple reference groups may be required. Woelfel and Haller's (1971) model of data collection should serve as an example of the most promising type of data collection for future research on peer influence. Instruments that permit outcome-specific free choice of friends and perceived influences (positive and negative) in and out of school will enable more complete modeling of the influence processes, and better understanding of the links between selection and influence. Techniques of network analyses may be useful for the examination of the influence of friends, to specify more completely the structural elements of group ties, and to take into account the impact on students of the friends of their own friends and the structure of such total groups. But in addition, techniques must be modified to consider the long term effects of friends on a variety of behaviors and the settings in which the selection of friends and interactions occur.

3. Current theoretical frameworks to explain the formation of students' friendship groups must be reexamined. Earlier research on student friendship groups attempted to generalize the mechanisms of selection from studies of adult friendship groups. Theories of "balance" in group interactions and social exchange (Heider, 1958, and Homans, 1961)

have been used to exllain attraction and selection of student friends. The theories of attraction and selection have been based on studies of how adults, with relatively stable personalities, evaluate and select friends, and expect and desire reciprocation. In these studies feelings of "distress" are the result of asymetric (non-reciprocated) adult friendships. Hallinan (1976a) surmises that students experience the same kind of distress due to membership in intransitive triads or non-mutual dyads.

The results reported here raise the possibility that changing friends, non-mutual or unstable friendships is a normal condition of student friendship groups and may be a challenging and necessary condition for student self-development. Douvan and Adelson (1966) comment on the capacity for change in adolescent friendships, and Hallinan and Tuma (1978) report that mutual friendship choices of elementary students last an average of about 90 days. Children change grades, teachers, schools, neighborhoods, school programs, elective courses and after school activities with unusual frequency. Change for students is not unusual, and change of friends along with multiple changes in settings may not produce stressful effects parallel to those experienced by adults.

A vast literature attests to the fact that students' cognitive and affective development proceed at different rates. As one child advances in one area of development, new friends are encountered, new opportunities are offered; earlier friends are often left behind. Theoretical and empirical studies suggest that over time, students increasingly choose friends because of similar characteristics, interests or abilities, or for more complex reasons of admiration, expected

prestige, or symbiotic or synergistic interaction. This process of differentiated selection of friends requires changing, testing, and revising friendships. The process experienced by students sets the stage for, but may not duplicate, the processes and consequences of selection of friends by adults. It may not be particularly stressful for children to list new friends each year or more frequently. Our data suggest that stress may be associated more with isolation (either not making and/or not receiving any choices) than with non-reciprocation or instability of friendship choices at any one point in time.

The "status-based invitation-response" model (applied by Hallinan, 1976b, from the theoretical work of Waller, 1938, Goffman, 1963, and others) proposes that one individual reaches out to another of higher status and waits for a positive response or rejection. This theory is based on concepts of adult economic status and social status. "Status" as something to desire, reach for, and be granted through association with friends is not a well-defined concept for children. Desirable categories for students may be quite different from adult status dimensions--they may be less stable, situation-specific, age-specific, a function of the emphases by different schools on particular behaviors (such as self-reliance or tolerance), or a function of the definition of "desirable" by authority figures in different settings.

Social exchange theory supposes adults evaluate the selection of friends by the "rewards" and "costs" that are associated with their

decisions. These are abstract concepts for students, and we cannot be sure they are useful explanatory concepts for selection behavior.

Piagetian theory suggests that to the extent that the selection of friends involves cognitive processes, children will approach selection at the level of their cognitive development. It may be that not until children reach the advanced substages of the "formal-operational stage" (at about 15-16 or after) would they consider all aspects of the social process of interaction including the need for a likelihood of reciprocation and stability. How one thinks about the self, others and the world in which interaction takes place could affect the selection, reciprocation and stability of friendships. Before that time, under less inclusive cognitive operations, there would be room for change or surprise in students' social relations.

"Mutual attractiveness" and "status" are concepts that may be too static for an adequare representation of children's selection processes; "social exchange" implies rational considerations of benefits and losses and may be inappropriate assumptions for explaining selection processes across age groups. It will be beneficial to think in terms of the settings, tasks, developmental processes and natural upheavals that occur for children to study how selection and change in friends affect the developing child. Studies are required that deal directly with the full group of close friends, and multiple groups of friends, acquaintances and even distant models and negative models and that include direct measures of social stress if we are to understand "stress" in the changing friendship groups of children.

The current study suggests that theories of adult selection behaviors have been prematurely or inappropriately adopted to "explain" children's selection of friends. Theories of adult behavior based on observation and laboratory research in social settings are far more advanced than research on the applicability of such theories to children's growth and development. It may be that multiple theories are needed that take into account the child's age, cognitive and emotional development, and the organization of the environments. For example, proximity is a necessary condition for contact and interaction, and, therefore, selection. However, proximity may play a greater role in selection of friends for younger children. Interpersonal attraction and "balance" theories may explain some selection procedures, but are specific to a limited number of characteristics, attitudes or behaviors. These theories may play a greater role in explaining the process of selection for older adolescents and adults since sophisticated cognitive skills are required for the accurate perceptions and judgments about behaviors or others. To the extent that a young person (P) can not (or does not) perceive or judge accurately the behavior of an other (O), or the importance of the behavior (X) to (O) and/or (P), then, the theories of interpersonal attraction will not operate in the same way for children as for adults. This would result, for example, in short friendships or reselections as we note in this study. Sex and age are key characteristics, but the organization of school and other environments can influence these and other determinants of selection. Status-based models of selection may operate differently for youngsters,

adolescents, and adults based on age-appropriate and situation-specific definitions of "status." The weakness of theories as currently employed is that they do not integrate age distinctions, experience, or environmental opportunities and restraints.

4. The results suggest strategies for application in schools. The study shows that peer influence can reinforce predominant adult or school values and need not conflict with adult expectations. Students with high achievement aspirations and self-reliance do influence their friends to achieve, to form college plans, to behave self-reliantly. But, this is not true for all friendship groups. Since it is the selection of "good influences" that makes the difference, an important question is whether, and how, schools can encourage the most advantageous interactions among students. The selection of best friends is not a random process and schools cannot assign best friends. However, schools may be able to alter structural conditions within classrooms that enable students to have access to, interact with, and select "good" influences.

The potential for influence may depend heavily on the population assigned to, attracted to, or created by the school. In this way, the results have several implications for implementation of school desegregation plans. High-scoring students on particular outcomes (regardless of race) will be more likely to be positive influences on those outcomes for the students who select them as friends.

Selection and influence depend on the mechanisms for social interaction built into the educational program. The conditions of visibility,

movement, small and frequently changing work groups, and self-motivated projects are among the conditions that affect the selection of friends and define the potential for influence.

As we begin to better understand the structural characteristics of classrooms and the selection and influence processes of friendship groups, we can begin to engineer opportunities that encourage positive interactions for more students. Schools may seek to create opportunities for students high on a particular positive quality to interact with students who may be low on the same quality. The openness of instruction is only one type of structural condition that may revise patterns of friend selection and influence. We will need to examine a variety of organizational forms that produce different school social environments to better understand the linkages between selection and influence in school settings.

References

Alexander, C. N. and E. Q. Campbell
1964 Peer influences on adolescent educational aspirations and attainments. American Sociological Review 29: 568-575.

Alexander, K. and E. L. McDill
1976 Selection and allocation within schools: Some causes and consequences of curriculum placement. American Sociological Review 41: 963-980.

Bain, R. K. and J. G. Anderson
1974 School context and peer influences on educational plans of adolescents. Review of Education Research 44: 429-445.

Bidwell, C.
1972 Schooling and moral socialization. Interchange 3: 3-22.

Campbell, E. Q. and C. N. Alexander
1965 Structural effects and interpersonal relations. American Journal of Sociology 71: 284-289.

Campbell, J. D. and M. R. Yarrow
1958 Personal and situational variables in adaptation to change. Journal of Social Issues 14: 29-46.

Campbell, J. D.
1964 Peer relations in childhood. Pp. 289-322 in L. Hoffman and L. W. Hoffman (Eds.) Review of Child Development Research, Volume 1. New York: Russell Sage.

Cartwright, D.
1965 Influence, leadership and control, in J. G. Marsh (Ed.), Handbook of Organizations. Chicago: Rand McNally.

Cohen, J.
1977 Sources of peer homogeneity. Sociology of Education 50: 227-241.

Coleman, J. S.
1961 The Adolescent Society. New York: The Free Press.

Douvan, E. and Adelson, J.
1966 The Adolescent Experience. New York: John Wiley

Duncan, O. D., A. H. Haller and A. Portes
1968 Peer influence on aspirations: A reinterpretation. American Journal of Sociology 72: 119-137.

Elder, G. H.
1969 Peer socialization in an educational context. Educational Leadership 26: 465-473.

Epstein, J. L. and J. M. McPartland
1975 The effects of open school organization on student outcomes. Report 194. Baltimore: The Johns Hopkins University Center for Social Organization of Schools.

1977a Family and school interactions and main effects on affective outcomes. Report 235. Baltimore: The Johns Hopkins University Center for Social Organization of Schools.

1977b Sex differences in family and school influence on student outcomes. Report 236. Baltimore: The Johns Hopkins University Center for Social Organization of Schools.

1979 Authority structures and student behavior. Chapter to appear in H. Walberg (Ed.), Educational Environments and Effects: Evaluation and Policy. Berkeley: McCutchan (forthcoming).

Feldman, K. A. and J. Weiler
1976 Changes in initial differences among major-field groups: An exploration of the "accentuation effect." Pp. 373-410 in W. H. Sewell, R. M. Hauser, and D. L. Featherman (Eds.), Schooling and Achievement in American Society. New York: Academic Press.

Glidewell, J. C., M. B. Kantor, L. M. Smith, and L. A. Stringer
1966 Socialization and social structure in the classroom. In L. W. Hoffman and M. L. Hoffman (Eds.), Review of Child Development Research. New York: Russell Sage.

Goffman, E.
1963 Behavior in Public Places. New York: Free Press.

Haller, A. O. and J. Woelfel
1972 Significant others and their expectations: Concepts and instruments to measure interpersonal influences on status aspirations. Rural Sociology 37: 591-622.

Hallinan, M.
1974 The Structure of Positive Sentiment. New York: Elsevier.

1976a Friendship patterns in open and traditional classrooms. Sociology of Education 49: 254-264.

1976b Friendship formation: A continuous time mark or progress. CDE Working Paper 76-5.

1978 The peer influence process: A reconceptualization. Paper presented at the National Institute of Education International Conference on School Organization and Effects January, 1978.

Hallinan, M. and N. B. Tuma
1978 Classroom effects on changes in children's friendships. Sociology of Education 51: 270-282.

Heider, F.
1958 The Psychology of Interpersonal Relations. New York: Wiley.

Homans, G.
1961 Social Behavior, Its Elementary Forms. New York: Harcourt Brace & World.

Hoyt, M. and W. R. Morgan
1975 Race and sex variations in the causes of the expected attainments of high school seniors. American Journal of Sociology 81: 364-394.

Inkeles, A.
1968 Society, social structure and child socialization. Pp. 73-129 in J. A. Clausen (Ed.) Socialization and Society. Boston: Little and Brown.

Kandel, D.
1978 Homophily, selection and socialization in adolescent friendships. American Journal of Sociology 84: 427-436.

Kandel, D. and G. S. Lesser
1970 Relative influences of parents and peers on educational plans of adolescents in the United States and Denmark. Pp. 283-306 in M. Miles and W. W. Charters (Eds.), Learning in Social Settings. Boston: Allyn and Bacon.

Karweit, N.
1976 School influences on student interaction patterns. Report 220. Baltimore: The Johns Hopkins University Center for Social Organization of Schools.

Kelly, H. H.
1952 Two functions of reference groups. Pp. 410-414 in G. E. Swanson, T. M. Newcomb, and E. L. Hartley (Eds.) Readings in Social Psychology.

Lippitt, R. and R. K. White
1947 An experimental study of leadership and group life. Pp. 313-330 in T. M. Newcomb and E. L. Hartley (Eds.), Readings in Social Psychology. New York: Holt, Rinehart and Winston.

Maccoby, E. E. and C. N. Jacklin
1974 The Psychology of Sex Differences. Stanford: Standord University Press.

McPartland, J. M. and J. L. Epstein
1976 Effects of open structure on student-student and student-teacher processes. Paper presented at annual meeting of AERA.

1977 Open schools and achievement: Extended tests of a finding of no relationship. Sociology of Education 42: 133-144.

McDill, E. L. and J. S. Coleman
1965 Family and peer influences in college plans of high school students. Sociology of Education 38: 112-126.

McDill, E. L. and L. Rigsby
1973 Structure and process in secondary schools: The academic impact of educational climates. Baltimore: The Johns Hopkins University Press.

Mead, G. H.
1934 Mind, Self, and Other. Chicago: University of Chicago Press.

Meyer, J. W.
1970 High school effects on college intentions. American Journal of Sociology 76: 59-70.

Newcomb, T.
1961 The Acquaintance Process. New York: Holt, Rinehart and Winston.

Picou, J. S. and T. M. Carter
1976 Significant-other influence and aspirations. Sociology of Education 49: 21-22.

Rosenbaum, J. E.
1976 Socializing youth for social inequality. Paper presented at annual meeting of the American Sociological Association.

Schmuck, R. A.
1970 Some relationships of peer liking patterns in the classroom to pupil attitudes and achievements. Pp. 185-225 in M. B. Miles and W. W. Charters (Eds.), Learning in Social Settings. Boston: Allyn and Bacon.

Spady, W.
1973 The impact of school resources on students. Pp. 135-177 in F. N. Kerlinger (Ed.), Review of Educational Research. Itasca, Illinois: F. E. Peacock.

Walberg, H. J. and S. C. Thomas
1972 Open education: An operational definition and validation in Great Britain and the United States. American Educational Research Journal 9: 197-208.

Waller, W.
1938 The Family: A Dynamic Interpretation. New York: Dryden.

Woelfel, J. and A. O. Haller
1971 Significant others, the self-reflexive art and the attitude formation process. American Sociological Review 36: 74-87.